This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

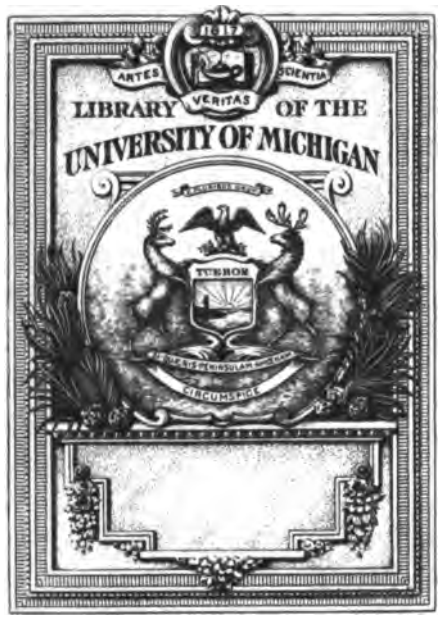
+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

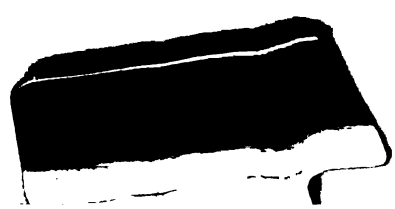
About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

B 456481 DUPL



THE GIFT OF
Prof. H. L. Wilgus



HC
10
.A2

REPORTS

OF THE

DEPARTMENT OF COMMERCE AND LABOR

1904

REPORT OF THE SECRETARY OF COMMERCE AND LABOR

AND

REPORTS OF BUREAUS

WASHINGTON
GOVERNMENT PRINTING OFFICE
1905

Econ. Lib.
Gift
Professor W. L. Wilgus
12-1-1933

CONTENTS.

REPORT OF THE SECRETARY OF COMMERCE AND LABOR.

	Page.
Introduction	7
Appropriations and expenditures	7
Estimates	10
Plan of organization	11
Special investigations	11
Personnel of the Department	12
Purchase of supplies	13
Printing	14
Books and blanks	14
Telegraph and telephone service	15
Bureau of Manufactures	15
Bureau of Corporations	15
Bureau of Labor	17
Light-House Board	20
Bureau of the Census	22
Special reports	22
Philippine census	24
Miscellaneous work	24
Tabulating appliances	25
Coast and Geodetic Survey	27
Bureau of Statistics	28
Steamboat-Inspection Service	31
Expenses	31
Inspection of vessels	32
Officers licensed	32
Inspection of steel plates	32
Casualties	33
Disaster to the steamer General Slocum	33
Bureau of Fisheries	35
Fish propagation	36
Investigations connected with the fisheries	37
Alaskan salmon fisheries	38
Alaskan fur-seal service	39
Seal catch of 1904	39
Fox raising	39
Care of natives	39
Bureau of Navigation	40
Tonnage tax	41
Remission of penalties	41
United States shipping commissioners	41

Page.
Bureau of Immigration 42
The Chinese exclusion laws 43
Cost of the immigration service 44
Legislation recommended 44
Bureau of Standards 45
Wireless telegraphy 47
Conclusion 47

REPORTS OF BUREAUS.

BUREAU OF CORPORATIONS 51
BUREAU OF LABOR 105
LIGHT-HOUSE BOARD 123
BUREAU OF THE CENSUS 303
COAST AND GEODETIC SURVEY 335
BUREAU OF STATISTICS 351
STEAMBOAT-INSPECTION SERVICE 355
BUREAU OF FISHERIES 461
ALASKAN SALMON FISHERIES 613
BUREAU OF NAVIGATION 655
BUREAU OF IMMIGRATION 731
BUREAU OF STANDARDS 897

INDEX 911

REPORT

OF THE

SECRETARY OF COMMERCE AND LABOR

ANNUAL REPORT

OF THE

SECRETARY OF COMMERCE AND LABOR.

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,
Washington, December 1, 1904.

To the PRESIDENT:

I have the honor to submit herewith, for transmission to Congress, in accordance with the provisions of the organic act, the annual report of this Department.

The present organization of the Department is practically as presented in the first annual report of the Secretary. The Bureau of Manufactures, authorized under the organic act, was not organized during the past year because of the insufficiency of the appropriation. The complete organization of the Secretary's Office was postponed for a similar reason.

APPROPRIATIONS AND EXPENDITURES.

The itemized statement of expenditures from the contingent fund of the Department of Commerce and Labor will be transmitted to Congress in the usual form.

The following table shows the objects and amounts of the annual appropriations for the fiscal year ended June 30, 1904, of the balances of appropriations for public works which, under the law, are expended without regard to any particular fiscal year, available July 1, 1903, and of permanent indefinite appropriations:

	Annual appropriations, 1904.	Appropriations for public works.	Permanent indefinite appropriations.	Grand totals.
Office of the Secretary of Commerce and Labor and Bureaus of Corporations and Manufactures	[a]$315,860.06			$315,860.06
Bureau of Labor	184,220.00			184,220.00
Light-House Board	44,260.00			44,260.00
Light-House Establishment	3,546,000.00			3,546,000.00
Light-houses, beacons, fog signals, etc		[b]$3,329,226.25		3,329,226.25
Bureau of the Census	1,396,749.59			1,396,749.59
Bureau of Statistics	65,570.00			65,570.00

[a] The unexpended balance July 1, 1903, of the appropriations for the fiscal years 1903 and 1904, and the deficiency appropriation for the fiscal year 1904.

[b] The aggregate of 108 items of appropriations made at different times by Congress for repairs to and the erection of light-houses, beacons, fog signals, light-ships, light-house depots, etc., remaining unexpended July 1, 1903. Contracts have been made, or will be made as soon as plans and specifications can be prepared and approved, that will require the expenditure of the entire sum. Of the amount, $1,188,100 was appropriated by the act of Congress approved March 3, 1903, entitled "An act making appropriations for sundry civil expenses of the Government for the fiscal year ended June thirtieth, nineteen hundred and four, and for other purposes."

	Annual appropriations, 1904.	Appropriations for public works.	Permanent indefinite appropriations.	Grand totals.
Office of Supervising Inspector-General, Steamboat-Inspection Service	$11,940.00			$11,940.00
Steamboat-Inspection Service			$388,359.70	388,359.70
Bureau of Navigation	26,480.00			26,480.00
Salaries, shipping service			60,905.89	60,905.89
Services to American vessels			10,633.37	10,633.37
Refunding penalties or charges erroneously exacted			2,988.87	2,988.87
Bureau of Navigation	19,426.00			19,426.00
Expenses of regulating immigration			1,904,398.31	1,904,398.31
Enforcement of the Chinese-exclusion act	500,000.00			500,000.00
Enforcement of alien contract labor laws	150,000.00			150,000.00
Ferryboat, New Island, repairs, etc., at Ellis Island, N. Y., immigrant station		$337,546.90		337,546.90
Bureau of Standards	195,950.00			195,950.00
Coast and Geodetic Survey	[a] 918,285.06	119,601.62		1,037,886.68
Bureau of Fisheries	537,640.00			537,640.00
Fish hatcheries, launch, steamer, etc		162,280.68		162,280.68
Salaries and expenses of agents at seal fisheries in Alaska	12,950.00			12,950.00
Supplies for native inhabitants, Alaska	15,000.00			15,000.00
Expenses, inspectors of pelagic seal skins	100.00			100.00
Protection of salmon fisheries of Alaska	7,000.00			7,000.00
Publication of diplomatic, consular, and commercial reports	40,000.00			40,000.00
Contingent expenses, bureaus transferred from Treasury Department, including rents; and postage, numbering machines, etc	19,052.00			19,052.00
Salaries of positions transferred from State Department	5,700.00			5,700.00
Salaries of positions transferred from Treasury Department	11,640.00			11,640.00
Miscellaneous items of appropriations transferred from Treasury Department	662.00			662.00
Repairs of Butler Building	1,000.00			1,000.00
Shelving and transferring records	266.40			266.40
Repairs and heating apparatus, Richards Building	3,682.00			3,682.00
Total	8,029,433.11	3,948,655.45	1,767,286.14	13,745,374.70

[a] Of this amount $260,760.06 is to be expended without regard to fiscal year.

The following table shows the disbursements made by the disbursing clerk of the Department for the fiscal year ended June 30, 1904:

Appropriations.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
Salaries, Department of Commerce and Labor, 1903 and 1904	$18,441.30	$22,429.34	$26,738.77	$45,208.80	$112,813.21
Salaries and expenses, special agents, Department of Commerce and Labor, 1903 and 1904	7,076.06	11,239.60	13,759.77	21,617.66	53,693.09
Rent, Department of Commerce and Labor, 1903 and 1904	3,943.32	2,054.98	3,124.13	3,082.47	12,204.90
Contingent expenses, Department of Commerce and Labor, 1903 and 1904	15,738.45	24,519.44	14,650.95	20,918.69	75,827.53
Salaries, Department of Labor, 1904	26,483.37	26,119.88	26,595.00	26,263.41	105,461.16
Miscellaneous expenses, Department of Labor, 1904	12,325.71	18,640.98	15,863.62	12,788.96	59,619.27
Stationery, Department of Labor, 1904	17.10	102.00	456.24		575.34
Library, Department of Labor, 1904	124.92	64.31	291.68	417.69	898.60
Rent, Department of Labor, 1904	1,125.00	1,687.50	2,250.00	1,687.50	6,750.00
Contingent expenses, Department of Labor, 1904	213.39	446.33	553.27	1,257.98	2,470.97
Postage to Postal Union countries, Department of Labor, 1904	150.00		150.00	150.00	450.00
Salaries, Bureau of Statistics, 1904	16,412.29	16,720.33	16,817.50	16,344.92	66,295.04
Collecting statistics relating to commerce, 1904	620.20	838.10	954.46	1,587.24	4,000.00
Publication of diplomatic, consular, and commercial reports, 1904	2,214.27	4,475.40	14,110.17	7,012.95	27,812.79
Salaries, Office of Light-House Board, 1904	10,382.51	10,686.46	10,811.75	10,716.11	42,596.83
Salaries, Bureau of Navigation, 1904	6,544.17	6,225.40	6,202.14	6,385.14	25,356.85
Salaries, National Bureau of Standards, 1904	15,715.00	17,522.01	18,075.47	18,442.11	69,754.59
Equipment, National Bureau of Standards, 1904	5,662.02	19,057.35	28,288.83	13,677.61	66,685.81

Appropriations.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Total.
Improvement and care of grounds, Bureau of Standards, 1904 and 1905	.....	.....	.....	$500.00	$500.00
General expenses, National Bureau of Standards, 1904	$1,958.86	$2,220.55	$2,076.41	3,003.80	9,259.62
Salaries and traveling expenses of agents at seal fisheries of Alaska, 1904	.....	2,198.95	2,799.05	1,101.05	6,094.05
Protection of salmon fisheries of Alaska, 1904	910.35	1,911.74	1,333.80	1,262.47	5,418.36
Salaries, Bureau of Immigration, 1903 and 1904	4,407.90	3,993.08	4,574.38	5,580.45	18,555.81
Salaries, Office of Supervising Inspector-General, Steamboat-Inspection Service, 1904	2,887.20	3,079.53	2,985.00	2,985.00	11,936.73
Salaries, Steamboat-Inspection Service	75,125.03	76,048.23	76,738.18	76,407.95	304,319.39
Contingent expenses, Steamboat-Inspection Service	21,452.58	16,564.00	11,368.49	16,662.26	66,047.33
Enforcement of the Chinese-exclusion act, 1904	41,748.31	91,111.33	104,122.14	105,136.97	342,118.75
Expenses of regulating immigration	248,028.94	325,461.88	314,016.88	379,389.56	1,266,897.26
Enforcement of the Chinese-exclusion act, 1903	11,820.28	.....	.....	148.31	11,968.59
Miscellaneous expenses, Department of Labor, 1903	1,098.90	.....	.....	.....	1,098.90
Contingent expenses, Department of Labor, 1903	356.51	.....	.....	.....	356.51
Preservation of census records, Census Office, 1904	1,470.00	1,436.72	1,410.00	1,200.04	5,516.76
Contingent expenses, Department of Commerce and Labor, 1904 (bureaus transferred):					
Stationery	1,313.76	2,331.17	327.31	.75	3,972.99
Newspapers and books	18.00	30.56	58.43	54.50	156.49
Freight, telegrams, etc	2.40	74.30	157.77	47.44	281.91
Ice	.....	68.43	.....	21.52	89.95
File holders and cases	.....	126.72	.....	55.27	181.99
Gas, etc	32.66	59.66	55.91	54.40	202.63
Carpets and repairs	.....	4.76	152.16	116.24	273.16
Miscellaneous items	63.29	163.31	5.40	.....	232.00
Furniture, etc	2.30	716.35	.....	4.00	722.65
Rent	3,034.96	1,939.99	3,246.64	3,543.31	11,764.90
Postage	.....	.....	205.00	.....	205.00
Numbering, adding, and other machines	.....	48.50	397.75	10.00	456.25
Repairs to Butler Building, Washington, D.C.	.....	.....	167.00	65.30	232.30
Equipment, National Bureau of Standards, 1903	2,541.68	1,068.25	.....	.....	3,609.93
Publication of diplomatic, consular, and commercial reports, 1903	951.13	9,600.03	.....	.....	10,551.16
General expenses, National Bureau of Standards, 1903	119.50	66.29	.....	.....	185.79
Equipment of laboratory, National Bureau of Standards, 1902	1,475.25	.....	.....	.....	1,475.25
Protection of salmon fisheries of Alaska, 1903	601.30	.....	.....	.....	601.30
Steel twin-screw ferryboat, Ellis Island, N.Y.	.....	26.85	55,184.03	38,234.10	98,444.98
New Island near Ellis Island, N.Y.	.....	128.12	.....	.....	128.12
Repairs, etc., property at Ellis Island, N.Y.	20,345.91	13,574.74	1,950.85	.....	35,871.50
Salaries and traveling expenses of agents at seal fisheries in Alaska, 1903	.....	5,471.20	.....	.....	5,471.20
Repairs and heating apparatus, Richards Building, Department of Commerce and Labor, 1904	.....	37.50	.....	105.50	143.00
Total	584,951.08	742,386.65	783,021.33	843,244.43	2,953,603.49

The disbursements during the fiscal year ended June 30, 1904, from the annual appropriations for that year, from the appropriations for public works, and from the permanent indefinite appropriations during the same fiscal year were as follows:

By the disbursing clerk, Department of Commerce and Labor, on account of salaries and expenses of the Office of the Secretary of Commerce and Labor, the Bureaus of Corporations, Labor, Statistics, Navigation, Immigration, and Standards, the Light-House Board, the office of the Supervising Inspector-General of the Steamboat-Inspection Service, expenses of regulating immigration, expenses of enforcing the Chinese exclusion act, salaries and expenses,

Steamboat-Inspection Service at large, salaries and expenses of agents at seal fisheries in Alaska, protection of salmon fisheries of Alaska, publication of diplomatic, consular, and commercial reports, and supplies for native inhabitants of Alaska (shown in detail in the above table of expenditures)	$2,953,603.49
By the disbursing clerk, Bureau of the Census, on account of salaries and expenses of the Bureau of the Census	1,189,411.90
By the special disbursing agent, Coast and Geodetic Survey, on account of salaries, expenses, and public works of the Coast and Geodetic Survey	764,464.57
By the special disbursing agent, Bureau of Fisheries, on account of salaries, expenses, and public works of the Bureau of Fisheries	590,877.05
By the special disbursing agents of the Immigration Service at large	41,504.46
By the engineer and naval secretaries of the Light-House Board, inspectors and engineers detailed from the Army and Navy to duty in the Light-House Establishment	4,680,135.52
By customs officers, on account of witness' fees in steamboat investigations	346.46
By the Auditor for the State and other Departments on account of all the bureaus, offices, and services, from annual appropriations for the fiscal year ended June 30, 1904, appropriations for public works, and permanent indefinite appropriations	141,532.11
Total disbursements during the fiscal year	10,361,875.56

Recommendation is made that, as far as practicable, the disbursing offices authorized by law and now existing in some of the subordinate bureaus be consolidated with the disbursing office of the Department of Commerce and Labor. Such a consolidation will result in a saving of both time and expense in the examination of accounts and the payment of vouchers. The bookkeeping of the Department will be simplified and the exact status of accounts and balances of appropriations, including the balances of advances on requisitions, can be ascertained without difficulty, as the ledgers of the Department will show the disbursements from day to day.

Should consolidation be effected, the work of disbursing the appropriations of the Department and the several bureaus and offices thereof will come under the personal supervision of the Secretary.

ESTIMATES.

The estimates for the Department, submitted for the fiscal year ending June 30, 1906, have been prepared after a most careful consideration of the actual needs of the Department and its various bureaus, offices, and services. In the aggregate, there was a material reduction from the amounts first submitted by the bureaus, it being my desire to eliminate for the coming year all increases that might, without injury to the proper growth of any service, be postponed to a future time.

One of the items of increase in the estimates is the amount requested

for the proper organization of the Office of the Secretary. The original appropriations were insufficient to furnish the Secretary adequate assistance for the mere routine administration work necessarily connected with the conduct of the Department. The estimates for the Secretary's Office call for only four clerks in addition to those now employed, but of those now employed nine are on detail from various bureaus of the Department and should be returned to the offices to which they belong, where their services are required.

PLAN OF ORGANIZATION.

The organization of the Department has been conducted along lines in harmony with the appropriations authorized by Congress for the current fiscal year. In some instances the work has been hampered by reason of an insufficient force of employees, and it is hoped that Congress will remedy this difficulty.

SPECIAL INVESTIGATIONS.

In the estimates I have included a provision for an appropriation to be expended under the immediate direction of the Secretary for the investigation of trade conditions at home and abroad, with the object of promoting the domestic and foreign commerce of the United States, and for other purposes. A similar request, made in the first annual report, was denied by Congress, but the result of the year's work conclusively demonstrates that the main investigation contemplated will be of great value to the commercial interests of the country. The growth of our foreign trade can be materially and immediately helped by sending skilled and trained men to study and report upon special conditions in the great world markets.

In addition to the main purpose the appropriation is needed also "for other purposes." It is of the utmost importance that a fund be available for expenditure under the immediate direction of the Secretary for the employment of special agents for the inspection and examination of the services of the Department. On account of the limitations which the law very properly imposes with reference to the expenditure of funds, it is impossible, without such a fund, to promptly meet such emergencies as frequently arise.

Money appropriated for contingent expenses, or for a special or general purpose, can not be used for official or clerical compensation, and executive officers are prohibited from employing help beyond provision made by law. Usually the annual appropriations are barely sufficient to enable the bureaus and offices to dispose of routine work, and provision is seldom, if ever, made for emergency work. The situation which arose in connection with the *General Slocum* disaster is in point. In that instance the Department had no funds which could

lawfully be used to provide either for a reinspection of the passenger steamers in the port of New York or for a general investigation of the service. Yet both the inspection and the investigation were necessary.

I am informed that for years a "division of special agents" has been maintained in the Treasury Department. These special agents are available for detail on any subject of investigation or inspection connected with the Department, and in the main are detailed to report on the work of the branches of the public service outside of the District of Columbia. Of the 7,610 employees of the Department of Commerce and Labor outside of the District of Columbia, 6,754 are connected with bureaus and offices formerly under the jurisdiction of the Treasury Department. In order to continue the efficiency of these services, it is imperative that provision be made for special investigations and inspections either as herein recommended or as maintained while the branches of the service referred to were part of the Treasury Department.

PERSONNEL OF THE DEPARTMENT.

On November 10, 1904, there were in the Department 9,210 regular positions. Of these, 1,812 were specifically authorized by law, and 7,398 were provided for under general appropriations that do not create specific positions.

Persons employed temporarily under general appropriations, except 14 persons engaged on the Philippine census, 50 persons paid from the unexpended balance of the twelfth census appropriation, and 650 special agents engaged in the collection of the statistics of cotton production, are not included in these figures. This class of temporary employments is very large in some of the bureaus; for instance, under the law (act of March 3, 1899, sec. 8, amended, 30 Stat. L., 1015) requiring a decennial census of statistics relating to special classes, more than 6,000 special agents have been employed for various periods during the present calendar year in the Bureau of the Census. There are also employed in that Bureau 8 special agents for the collection of the statistics of the quinquennial census authorized in section 9 of the act of March 6, 1902, that are not included in the above total of 9,210.

Temporary laborers and mechanics employed under the engineers of the various light-house districts are also omitted. During the present calendar year 1,174 employments of this character have been authorized. In the Bureau of Fisheries, from January 1 to August 31 of this year, there have been employed for various periods more than 1,500 spawn takers, hatchery attendants, laborers, etc. These have also been omitted. Smaller classes of temporary employees, omitted by reason of payment from a general appropriation, are as follows:

Ten special agents in the Bureau of Corporations, 25 employees in the Immigration Service at large, 6 in the Coast and Geodetic Survey, and 2 in the Bureau of Fisheries.

The accompanying table shows the positions under the Department by bureaus, offices, and services, whether statutory or otherwise, and their distribution within and outside of the District of Columbia. In this table the entire personnel of the Office of the Secretary and of the Bureaus of Corporations, Manufactures, Labor, Statistics, and Standards is treated as within the District of Columbia. In the cases of the Light-House Establishment, the Bureaus of Immigration and Navigation, and the Steamboat-Inspection Service the figures show the persons actually serving within and outside of the District. In the Bureau of Fisheries all station employees, except those at the central station at Washington, employees at large, distribution employees, two local agents in the division of statistics and methods of the fisheries, and employees in the vessel service are treated as outside. In the Coast and Geodetic Survey the crews of vessels, and in the Bureau of the Census the cotton-gin agents, are treated as outside. It will be observed that of the 9,210 positions under the Department 1,600 are in the District of Columbia and 7,610 outside.

Bureau, office, or service.	Statutory positions.	Positions not statutory (lump appropriations).	In the District of Columbia.	Outside the District of Columbia.
Office of the Secretary	125	.....	125	.....
Bureau of Corporations	47	15	62	.....
Bureau of Manufactures	12	.....	12	.....
Bureau of Labor	80	20	100	.....
Light-House Establishment	36	5,246	36	5,246
Bureau of the Census	664	729	743	650
Coast and Geodetic Survey	220	94	257	57
Bureau of Statistics	61	2	63	.....
Steamboat-Inspection Service	166	46	7	205
Bureau of Fisheries	290	.....	84	206
Bureau of Navigation	22	53	22	53
Bureau of Immigration	18	1,193	18	1,193
Bureau of Standards	71	.....	71	.....
Total	1,812	7,398	1,600	7,610
In the District of Columbia				1,600
Outside the District of Columbia				7,610
Grand total				9,210

PURCHASE OF SUPPLIES.

Stationery and supplies for the entire Department in Washington, with the exception of supplies that are purely technical—such as scientific instruments and apparatus—and stationery for the entire service outside of Washington, have been purchased by the Secretary's Office during the past year at the best contract prices of the other Executive Departments, and for the coming year will be purchased under contracts which have already been made. Uniformity in the stationery and supplies used throughout the Department has been

insured and lower prices consequent upon wide competition and contracts for large quantities have been obtained.

Economy in clerical labor has resulted from consolidating in one division of the Department all the work relating to obtaining bids, making contracts, purchasing, issuing, and accounting for stationery and supplies. A further saving in this direction could be effected if the various contingent funds of the bureaus were consolidated into a single fund to be controlled by the Secretary's Office, thus doing away with the clerical work necessitated by the present cumbersome process of reimbursing the Department appropriation for contingent expenses from similar appropriations for those bureaus heretofore separately appropriated for.

PRINTING.

During the past year the Department has assumed the conduct of the relations of its bureaus (with the single exception of the Bureau of the Census) with the Government Printing Office, for the purpose of promoting promptness and uniformity in its printing and of securing accuracy and completeness of its records. A central editorial force has been organized, which, in cooperation with the editorial forces already employed in a number of the bureaus, will endeavor to secure more uniform excellence of form and expression in the Department publications.

In addition to its many other publications the Department has issued series of circulars and of decisions on appealed cases, which have been printed immediately upon their preparation so as to place them as promptly as possible in the hands of persons interested.

A history of the Department and its various bureaus and offices, including the acts under which they were organized and are conducted, has been published.

BOOKS AND BLANKS.

The transfer of certain bureaus from the Treasury Department to this Department necessitated the division between the two departments of a great number of blank forms formerly used in the Treasury Department. This division involved the settlement of a number of difficult questions of departmental jurisdiction, and a joint commission was appointed by the Secretary of the Treasury and the Secretary of Commerce and Labor to determine the proper assignment and use of the forms in doubt. The work of this commission is now nearly completed.

The transfer of these bureaus also necessitated the preparation of a number of new forms. Many forms have been consolidated, thereby eliminating unnecessary ones and reducing the cost of printing.

A new catalogue of the numerous forms now used in the Department is being prepared. In the course of its compilation the forms are being revised in the interest of uniformity and simplicity, making possible a more systematic classification. All these forms are now distributed by a single division of the Department, and thus the work is greatly simplified.

During the past year there have been printed and sent out to the various services of the Department over four and one-quarter million blanks and 75,000 books and pamphlets.

TELEGRAPH AND TELEPHONE SERVICE.

The Department has installed an efficient telegraph and telephone service. The question of reducing the cost of this service is being carefully considered in connection with the service in the other Departments, to the end that there may be obtained the greatest degree of efficiency with the least possible expense.

BUREAU OF MANUFACTURES.

The Bureau of Manufactures, authorized under the organic act, was not organized during the fiscal year covered by this report because of the insufficiency of the appropriations.

BUREAU OF CORPORATIONS.

The work of the Bureau of Corporations has proceeded along the lines indicated in the first annual report of the Department.

The Bureau has made exhaustive examination of judicial decisions for the purpose of ascertaining fully those constitutional powers and restrictions on which present conditions are based, and also those which must be necessarily involved in any future legislation for the improvement of present legal corporate conditions.

For the purpose of ascertaining and presenting in available form the legal conditions under which corporate business is being carried on in the various States material obtained from thirty States has been compiled and tabulated. In each of these States, with regard to all the more important corporations organized in the State and engaged in interstate or foreign commerce, typical either of the State's industries or of its laws, every paper or document filed or recorded concerning each corporation was examined separately, and all information relating to each corporation disclosed by the official records has been collected and compiled. There have been thus far examined and abstracted the records of over 1,500 corporations, which include the larger part of the more important industrial and commercial corporations, joint-stock companies, and corporate combinations in the United States.

At the same time there has been collected the fullest possible information concerning the various systems of corporate taxation in use; whenever possible, there have been obtained statements, reports, or returns of the more important corporations; and, in addition, there has been obtained a complete list of the foreign corporations admitted to do business in the particular State, this record showing the name, capital stock, and home State of each corporation. This record furnishes a convenient clew to corporations engaged in interstate commerce. The material now collected from twenty-five States on this subject is as follows:

First. Abstracts of the records of specific domestic corporations.
Second. Abstracts of the records of specific foreign corporations.
Third. List of foreign corporations admitted to the State to do business.
Fourth. Official forms of all corporate documents required or permitted to be filed.
Fifth. Transcripts of all records or returns used in connection with corporate taxation, taken from typical originals.

There is now ready for publication a compilation of the Federal and State statutes dealing with illegal industrial combinations—the so-called antitrust laws. This will afford complete information of such laws, showing in tabular and condensed form, so as to be readily available and easily comparable, their provisions, including the decisions thereunder and a digest and discussion of cases involving the common-law principles as to combinations in restraint of trade.

The compilation on a uniform outline of insurance laws has been undertaken and completed in ten States. The Bureau has been in communication with the insurance officials of all the States, and its agents have conferred with representatives of a large number of insurance companies, officers of boards of underwriters, and insurance agents, for the purpose of obtaining the best information possible upon both the legal and the business side of insurance.

Federal control or regulation of insurance raises at the outset the question whether insurance in any of its forms is interstate commerce. The decisions of the Supreme Court of the United States have established the legal proposition that fire, life, and marine insurance, in the forms presented to the court, are not interstate commerce. If this proposition be irrevocably settled, the powers of the Commissioner of Corporations in reference to insurance are merely to collect and compile such statistics and information as may be voluntarily furnished to him. It would be useless to simply duplicate the statistics already obtained by various State insurance officers.

The rapid development of insurance business, its extent, the enormous amount of money and the diversity of interests involved, and the present business methods suggest that under existing conditions insurance is commerce, and may be subjected to Federal regulation through

affirmative action by Congress. The whole question is receiving the most careful consideration upon both legal and economic grounds.

For the purpose of laying the foundation upon which direct investigations of special corporations can be intelligently conducted, the Bureau has compiled, from sources other than the corporations themselves, all available information regarding certain leading combinations. From a careful analysis of this material it has been possible to form preliminary judgments regarding the economic and financial practices and effects of combinations in general, and to determine the lines of further special inquiry. On the basis of this general study preliminary outlines of inquiries to be addressed directly to the companies are being prepared.

The results of the investigation of the beef industry, authorized by resolution of Congress, will be made the subject of a special report.

The increase in appropriations requested for the Bureau is based upon the actual cost of work hitherto done and the work now in hand or contemplated. It is most strongly urged that the appropriations be granted in the form requested, for the reason that the special character of the work makes it quite impossible to now determine accurately the kind and quality of services that may be required during the coming year. Much greater economy can be exercised in the work of this Bureau if the major portion of its appropriations is in a lump sum; and greater efficiency is possible, as specially qualified men can be temporarily employed for particular investigations.

BUREAU OF LABOR.

In the organic act establishing this Bureau it is stated that its general design and duties "shall be to acquire and diffuse among the people of the United States useful information on subjects connected with labor, in the most general and comprehensive sense of that word, and especially upon its relation to capital, the hours of labor, the earnings of laboring men and women, and the means of promoting their material, social, intellectual, and moral prosperity."

In accordance with the general design and duties referred to, the Commissioner of Labor is specially charged to gather information with reference to the cost of producing various articles, including the wages paid in the different industries, the hours of labor, and the comparative cost of living and kind of living. It is also made his duty to ascertain what articles are controlled by trusts or other combinations of capital, business operations, or labor, and what effect such trusts or other combinations of capital, business operations, or labor have on production and prices. Among other subjects, he is further charged to investigate the causes of and facts relating to all controversies and disputes between employers and employees which may tend to inter-

fere with the welfare of the people of the different States. He is also authorized to make special reports on particular subjects whenever required to do so or when he shall think the subjects in his charge require it.

The Commissioner of Labor reports that under these provisions of the law the Bureau has been engaged during the past year in the collection of data for its nineteenth annual report (for 1904) and in the preparation of that report. The annual report for 1903 related to the cost of living of workingmen's families and the retail prices of staple articles of food used by such families. The report for the present year relates to a subject closely allied—that of rates of wages and hours of labor—and is the result of an extensive investigation among the leading manufacturing and mechanical industries of the United States covering the period from 1890 to 1903, inclusive.

The investigation relating to this subject was designed to cover thoroughly the principal distinctive occupations in the leading industries belonging to this large industrial group in all sections of the country, with a view to securing data which should be entirely representative of conditions and show the trend of wages and hours of labor during the period covered. The force available for the prosecution of the work did not permit of the extension of the investigation to cover transportation, mining, agriculture, and the other great industrial groups. It was possible, however, with the force available to cover practically all of the leading manufacturing and mechanical industries, the number of industries covered being 67, while the data were secured from a total of 519 distinctive occupations in 3,429 establishments.

In addition to the preparation of the nineteenth annual report the Bureau has been engaged in the collection of material with reference to convict labor, which will form the basis of its twentieth annual report (the report for 1905). The collection of data for this report has been almost completed, and it is expected that the report itself will be submitted early in the coming year. This report will relate specially to the economic features of convict labor as employed in the penitentiaries, prisons, and jails of the United States.

Work will shortly be begun on the collection of data relative to strikes and lockouts in the United States, which will form the basis of the annual report for 1906. The sixteenth annual report, published in 1901, brought the facts relating to strikes and lockouts down to and including the year 1900. It is expected that the report for 1906 will cover the period from 1901 to 1905.

In addition to work on the annual reports of the Bureau, a portion of its force has been engaged, pursuant to resolution of the Committee on Labor of the House of Representatives, in the collection of data

which will form the basis of a report upon the bill (H. R. 4064) now pending in the House of Representatives entitled "A bill limiting the hours of daily service of laborers and mechanics employed upon work done for the United States or for any Territory or for the District of Columbia, and for other purposes."

The bimonthly Bulletin has been issued regularly every other month during the past year, and each number has contained, in addition to one or more special articles, timely data relative to agreements between employers and employees, digests of recent reports of State bureaus of labor statistics, digests of recent foreign statistical publications, decisions of courts affecting labor, and laws of various States relating to labor. Among the special articles published during the past year in the Bulletin are the following:

Labor Unions and British Industry.
The Annual Index of Wholesale Prices, Covering the Period from 1890 to 1903.
The Union Movement among Coal Mine Workers.
Child Labor in the United States.
Wages and Cost of Living (a summary of the eighteenth and nineteenth annual reports of the Bureau).
Building and Loan Associations in the United States.

The bulletin for September (No. 54) is devoted to a description of the exhibit of the Bureau at the Louisiana Purchase Exposition, and contains reproductions of the principal charts and photographs presented in that exhibit, together with the following series of papers relating more or less closely to the various features covered by the exhibit:

The Working of the United States Bureau of Labor.
Bureaus of Statistics of Labor in the United States.
Bureaus of Statistics of Labor in Foreign Countries.
The Value and Influence of Labor Statistics.
Strikes and Lockouts in the United States, 1881 to 1900.
Wages in the United States and Europe, 1890 to 1902.
Cost of Living and Retail Prices in the United States, 1890 to 1903.
Wholesale Prices in the United States, 1890 to 1903.
Housing of the Working People in the United States by Employers.
Public Baths in the United States.
Trade and Technical Education in the United States.
Hand and Machine Labor in the United States.
Labor Legislation in the United States.
Labor Conditions in Hawaii.

A special report entitled "Labor laws of the United States," which revises and brings down to date the second special report of the Bureau, published in 1896, is now going through the press and will shortly be available for distribution. The eleventh special report, relating to restriction of output in the United States and Europe, is now in the hands of the printer. As the result of investigations in progress or

completed, reports on the following subjects will appear during the coming year, either in the Bulletin or in the form of special reports:

Coal-Mine Labor in Europe.
Street-Railway Labor in the United States.
Benefit Features of Trade Unions in the United States and Europe.
Labor Conditions in Australia.
Labor Conditions in the Philippine Islands.

LIGHT-HOUSE BOARD.

The insular possessions and dependencies of the United States are insistent in their demands either to have their light-house services taken over and administered by the Federal Government, or to have more and better aids to navigation in the form of light-houses, light-vessels, fog signals, and buoys. Provision has been made by which the Alaskan waters will be well supplied with necessary aids to navigation, except the small and inexpensive post lights, many of which are needed, but which can only be supplied by legislative sanction. These requirements are fully set forth in the annual report of the Light-House Board. The needs of Porto Rico are fairly cared for so far as is possible without a light-house tender built specially for those waters, for which an appropriation has been asked of Congress.

The Hawaiian waters have a mere skeleton of a light-house service, simply a frame to build upon, and the Light-House Board is, for lack of funds and legislative authority, scarcely able to maintain what it took over under Executive order. The needs of Hawaii in this respect, as stated by the Light-House Board in its annual report, are commended to the consideration of Congress. The needs of American shipping in the waters of Navassa, Guam, and the Midway Islands are beginning to assert themselves, and the Department is prepared to take up such burdens as Congress may devolve upon it for the safeguarding of commerce in those waters.

The Department respectfully calls attention to the fact that owing to the want of sufficient appropriations it was unable to make needed repairs, to retain its full force of keepers, or to man and put into operation certain of its newly-built light-houses. The following statement made in its annual report of last year is renewed:

> The Department invites attention to the need of meeting the estimates for the maintenance of the Light-House Establishment with full appropriations. The amounts asked are urgently required. Any diminution of them will retard the operations of the establishment to just that extent. The increase in the number of aids to navigation since the last appropriations occasions the increase in the requirements of the establishment. The estimates have been carefully framed, and are based on an aggregate of items. Hence the reduction of the estimates will require the abandonment of items to the extent of the reduction.

The Department repeats its recommendations of last year as to light-house tenders and the establishment of two additional light-house districts, as follows:

Especial attention is invited to the several estimates for the cost of building light-house tenders. These vessels are the eyes and hands of the establishment. By and with them the quarterly inspections are made, the personnel of the establishment is kept up to its standard, the 1,550 light keepers are paid quarterly, supplies of oil, fuel, and other necessaries are delivered at the light stations, and repairs of old stations and the construction of new ones are made. The lack of sufficient light-house tenders has made it necessary to do certain work by contract which otherwise would have been done by employees of the Department with greater promptitude and at less expense. Attention is invited to the estimate for a light-house tender to be used in Porto Rican waters, especially as it will be necessary to use her in connection with the aids to navigation in Guantanamo Bay, Cuba, where the naval coal station has just been established.

The Light-House Establishment is now limited by law to 16 districts. The Light-House Board in its annual report has set out the need for two more districts, one to embrace Alaskan waters and the other to embrace Porto Rican waters, as well as the aids to navigation now in Guantanamo Bay, Cuba, and to be hereafter established there. The aids to navigation in Alaskan waters are now looked after by the inspector and engineer of the thirteenth light-house district, who have their headquarters at Portland, Oreg., or about 1,800 miles away from some portions of their work. This great distance makes it very difficult, and in some instances impossible, to give that careful supervision to the work which the interests of commerce and navigation require.

The establishment of a new district, with headquarters for the inspector and engineer near its center, will do much for the increased convenience and safety of the growing commerce in these waters. The aids to navigation in Porto Rican waters are now, and those in Guantanamo Bay will be, under the supervision of the inspector and engineer of the third light-house district, whose offices are on Staten Island, New York, some 1,500 miles away from this work. The establishment of a new district will enable the Board to place an inspector and engineer, say, at San Juan, P. R., where they would be within about 100 miles of their work in Porto Rican waters, and much nearer Guantanamo Bay than is now the case.

The estimates made for such special structures as are needed for the exhibition of lights required to make useful at night channels cut by legislative order seem to require special Congressional attention.

The Department urgently invites attention to the estimates for light-house structures for which authorized contracts have been made, and for the completion of which additional appropriations are required.

The estimates made for new light-houses, new light-vessels, new fog signals, and other proposed structures have in some instances been repeated from year to year. In every case the necessity for such work has been determined by careful examination after repeated demands therefor by commercial interests. The estimates, so I am informed, have been carefully made by the light-house inspectors and engineers, and thoroughly verified by the Light-House Board in its committees and by its executive officers. It remains for Congress to

decide whether the needs of commerce require immediate action upon these estimates.

BUREAU OF THE CENSUS.

The Director of the Census reports gratifying progress in the three main lines of work upon which the Bureau was engaged during the past fiscal year. These were special reports authorized by Congress, the tabulation of the Philippine census, and work assigned to the Bureau by the Department.

SPECIAL REPORTS.

The special reports in progress comprised inquiries concerning wealth, debt, and taxation, including statistics of municipal finance; defective, dependent, and delinquent classes; annual mortality; blind, deaf, and dumb; social and financial conditions in cities; electrical industries, and cotton statistics. Preparation has been made for the manufacturing census of 1905.

The report upon wealth, debt, and taxation is one of the most difficult and important which the Bureau is called upon to prepare. No previous inquiry upon these subjects has been entirely successful, due largely to the pressure of work in connection with the main inquiries of the census. The postponement of this report until after the completion of the census proper was one of the wisest provisions of the act for taking the Twelfth Census; it has given the Bureau ample time for a most complete presentation of the financial operations of the nation. The task of securing comparable statistics was exceedingly difficult, and in order to complete satisfactorily the decennial inquiry authorized by Congress it was necessary for the Bureau to take the lead in a movement looking to greater uniformity in the accounting methods of municipalities. Several cities have made changes in their systems of accounting in order to conform wholly or in part to the classification adopted by the Bureau.

The representatives of the Bureau have met everywhere with the hearty cooperation of local officials. It is probable that the annual census reports upon municipal finance for cities of 30,000 population and over will prove the most influential factor in securing the adoption of uniform classification, thus materially lessening the cost of compiling census statistics upon this subject, increasing the accuracy of the returns, making comparisons possible, and encouraging reforms in the public service.

Two special reports have been undertaken as essential to a full valuation of property. One of these, relating to the valuation of railroad properties, properly apportioned to the several States and Territories, has been undertaken in cooperation with the Interstate Com-

merce Commission. The other relates to the par and market values of the negotiable securities of the country. This report will cover an entirely new field of Federal statistical investigation.

Satisfactory progress has been made upon the inquiry concerning defective, dependent, and delinquent classes, and reports are now being received from 5,441 special agents, who are the bookkeepers or wardens of the institutions under review, and who furnish transcripts of their records for a nominal compensation. The report will cover the movement of population in all these institutions for the calendar year 1904; its completion can therefore hardly be looked for during the fiscal year 1905.

The annual reports on mortality in registration areas, authorized by section 7 of the census act, have been delayed in compilation owing to the fact that the statute fixed the compensation to be paid for the transcription of registration records at so low a figure that it proved impossible to secure complete and satisfactory performance of the service. Congress was accordingly asked at its last session to amend the law, but the amendment did not become effective until April 27 last.

Four reports relating to electrical industries have been completed. These cover electric railways, electric light and power plants, municipal electric fire-alarm and police-patrol systems, and telegraphs and telephones. Advance bulletins concerning all of these subjects have been issued, and it is planned to publish them in permanent form in the near future. Together they present a complete account of the remarkable development of the electrical industry in its application to public utilities.

The annual canvass of the cotton ginners of the Southern States, taken for the purpose of ascertaining the size of the crop during the progress of the picking, was made last year with results highly gratifying from the point of view both of accuracy and of the promptness with which the information was given to the public. There will be six canvasses during the coming year showing the amounts of cotton ginned to September 1, October 18, November 14, December 13, 1904, January 16, 1905, and the end of the season.

The Bureau has been actively engaged in the preparation necessary for the census of manufactures for 1905, authorized by section 8 of the census act. It is planned to collect a considerable percentage of the schedules by correspondence, and a copy of the schedule will be mailed to every manufacturer in the United States whose existence is known, in advance of the actual canvass by districts. In the field work it is proposed to utilize the clerical force of the Bureau, so far as possible, thus avoiding the necessity of appointing untried and untrained special agents to superintend the canvass. In accordance with the authorization contained in the act of Congress approved

March 1, 1904, the Director of the Census cooperated with the State of Michigan in taking the census of manufactures of that State, to be utilized in the Federal census of manufactures in 1905. This cooperation with State officials in statistical work resulted most satisfactorily. Arrangements have been made for similar cooperation with State officials in a number of States, in taking the census of manufactures.

PHILIPPINE CENSUS.

The most important work performed during the past year, in addition to work on the special reports, has been the tabulation of the census of the Philippine Islands. The schedules were received by the Bureau September 25, 1903, and the completed tables for population, agriculture, manufactures, vital statistics, and much other data were placed in the hands of the Director of the Philippine Census at intervals during the first six months of the present calendar year; the last of the tables will be completed and delivered in October. The greater part of the tables and text of the Philippine Census reports are now in press. It is expected that they will make four volumes of approximately 700 pages each. The regular clerical force of the Bureau was utilized upon this work, but during a period of three months, while the work was at its height, about 150 temporary clerks were employed to expedite the punching of cards.

MISCELLANEOUS WORK.

The Bureau has lately completed the tabulation of statistics concerning the executive civil service of the United States, and has published this information as Census Bulletin 12. The information presented in this bulletin is important and interesting. Accurate information regarding the personnel of the executive civil service can be secured only by compilations of this character, and there will undoubtedly be a demand for it at stated intervals. The Bureau of the Census should be authorized to compile a similar bulletin at intervals of two, four, or six years.

In the preparation of the decennial census tables showing the birthplace of the foreign-born population, the Bureau of the Census cooperated with the Bureau of Immigration and tabulated immigration statistics upon punched cards, thus bringing within the reach of the latter Bureau much information from the alien manifests hitherto untabulated. It is highly desirable to secure legislation by which the alien emigration as well as immigration can be statistically measured.

The original schedules of the twelve decennial censuses of the United States from 1790 to 1900 are now in possession of the Bureau of the Census, having been transferred from the Department of the Interior to the Census building in June last, under the act of Congress approved January 12, 1903. The population schedules of the Twelfth Census

have been bound in 2,812 volumes. Thus, all the population schedules of all the censuses except the Eleventh are in condition for permanent preservation. The Eleventh Census was taken by family schedules, and there were thus nearly 13,000,000 schedules. Their bulk precludes binding them, as it is estimated that they would form 30,000 volumes. The vaults of the Census building have been made fireproof, and contain the population schedules for all the censuses except the Eleventh.

The Director of the Census recommends that the Government shall compile and publish the names of the heads of families in the original thirteen States as returned at the census of 1790, and expresses the opinion that this material would occupy about 2,500 printed pages, or two volumes, of which an edition of 5,000 copies would not exceed $35,000 in cost. He believes that much of this expenditure would be repaid to the Treasury by sale of this work, which is much in demand by patriotic organizations and individuals.

During the past year the Bureau of the Census has published, or prepared for publication, ten bound volumes and twenty-three bulletins and pamphlets.

Sufficient time has now elapsed to justify the conclusion that the establishment of a permanent Census Bureau was wise legislation, not only for the main reasons advanced in the debates which led to the enactment of the law, but for other reasons which have developed as the work of the permanent office has progressed. During the past year it has been made clear that cooperation with State and municipal authorities in connection with the secondary inquiries, in securing population statistics for intercensal periods, and particularly in securing greater uniformity in statistical work, has opened so many new opportunities for usefulness that the existence of the Bureau of the Census is more than justified.

The Director of the Census states that the experience and efficiency of the clerical force of the Bureau have steadily improved. He has established the policy of transferring clerks in large numbers from one division to another, as the pressure of work demands. Incidentally this has greatly increased the familiarity of the clerks with different classes of work, and fits them for valuable service in connection with the next census. The lack of expert assistance in training and directing clerks was recognized by Congress at the last session, and the number of chiefs of division was increased from four to eight. The total number of employees in the clerical and field force of the Bureau is now 712.

TABULATING APPLIANCES.

During the year a new contract has been negotiated, with my approval, by the Director of the Census, for the use of the electrical tabulating apparatus successfully employed in the Eleventh and

Twelfth censuses. It is intended to utilize this apparatus in the tabulation of the annual vital statistics, the annual immigration statistics, and in other current work of the Bureau. It has been definitely demonstrated that the application of mechanical appliances in large statistical undertakings enables work to be completed in at least one-tenth of the time required to do it by hand at about one-third the cost and with a marked increase in accuracy.

Indeed, it may fairly be said that the work of compiling a decennial census has grown to such enormous proportions, owing to the rapid growth of the country, that it is no longer possible to accomplish it within a period of time that will satisfy the country without the aid of mechanical appliances. The law under which the Twelfth Census was taken required the four main reports—on population, vital statistics, agriculture, and manufactures—to be completed and published within two years from the date of the enumeration. The Director of the Census informs me that it would have been physically impossible to complete the compilation of the first three of these branches in less than four years without the aid of the mechanical appliances that were employed.

For the rental of these patented appliances, and for the cards, punches, and other necessary accessories, there was paid the sum of $428,239.61, in connection with the Twelfth Census proper. This sum represents nearly 4 per cent of the total cost of that census, and while it also represents a very large saving, as compared with the cost of doing the same work by hand, I am nevertheless convinced that the Government ought to take the steps necessary to a material reduction in the cost.

Something has already been accomplished in that direction by the Director of the Census, whose new contract for the rental of these machines has been negotiated on the basis of a reduction of approximately 25 per cent from the rentals paid at the Twelfth Census. But even at this reduced rate, he estimates that the use of the tabulating machinery at the Thirteenth Census will cost the Government not less than $720,000.

It is plain that some system of mechanical tabulation is permanently required in connection with census work, and I deem it equally plain that it would be greatly to the advantage of the Government to own a system, instead of depending upon a private company for the use of patented machinery. It is my belief that the way is open for the development of a new system, and that there is ample time to perfect it before the Thirteenth Census is under way. Experimental work in that direction can be carried on in the Bureau of the Census in connection with its current work and at comparatively small expense. The success of such experimental work will mean in the end a large

saving of money to the Government. It is therefore hoped that Congress will grant the appropriation for this experimental work which is asked for in the annual estimates.

COAST AND GEODETIC SURVEY.

The amount appropriated for the Coast and Geodetic Survey for the fiscal year 1904, exclusive of the allotment for printing and binding, was $968,025, of which $210,245 was for manning and equipping the vessels of the Survey, $120,000 for building a new vessel, $38,100 for repairs and maintenance of vessels, and $50,000 for office expenses. The remainder of the appropriation was about equally divided between expenses of parties in the field and salaries of the field and office forces.

The Superintendent of the Coast and Geodetic Survey reports that hydrographic surveys were made in 16 States and Territories, and topographic surveys in 9, that triangulation was done in 14, and leveling in 6. The field work necessary for a revision of the two volumes of the United States Coast Pilot covering the coast from Point Judith, R. I., to Chesapeake Bay entrance, was completed.

The primary triangulation along the ninety-eighth meridian and along the Pacific coast north of San Francisco was continued.

The determination of the difference of longitude between San Francisco, Honolulu (Hawaii), Midway Island, Guam Island, and Manila (Philippine Islands), by the telegraphic method, using the Commercial Pacific cable, was completed, making a most satisfactory closure of the longitude circuit around the globe.

In Alaska a survey was made of Davidson Inlet, work was continued in Prince William Sound, and the survey of Kiska Harbor was begun.

The director of coast surveys in the Philippine Islands, an officer of the Coast and Geodetic Survey (with a detail of assistants), in cooperation with the insular government, has continued the important work of charting the imperfectly known waters of the archipelago. The largest vessel belonging to the Survey was engaged on this duty during the past fiscal year. Detached surveys based on astronomic determinations and including base measurement, triangulation, topography, hydrography, and tide observations were made at various points, and a connected triangulation already extends over the greater portion of the west coast of Luzon Island north of Manila Bay. A few additional telegraphic longitudes were determined; magnetic and tide observations were continued. Fifteen new charts were prepared and published at the Manila suboffice, and two volumes of sailing directions were published (revised editions of Sections I and II).

Good progress was made in the general magnetic survey. Observations were made at 345 stations, in 23 States and Territories, including Alaska, Guam, Hawaii, Philippine Islands, and Porto Rico.

Magnetic observations were also made at sea while the vessels of the Survey were en route to their various stations. Magnetic observatories were maintained at Cheltenham, Md.; at Baldwin, Kans.; at Sitka, Alaska; at Honolulu, Hawaii; and in Porto Rico. Special observations were made at the observatories during the year on the 1st and 15th of each month, in order to cooperate with foreign observatories in international magnetic work in connection with the observations made by the expeditions to the Antarctic regions.

Continuous tide observations with self-registering gauges were made at 8 stations, including 1 station in Hawaii and 1 in the Philippine Islands.

The Superintendent attended the Fourteenth General Conference of the International Geodetic Association at Copenhagen, Denmark, as the delegate of the United States. He continued the work of re-marking the boundary line between the United States and Canada, from the Rocky Mountains westward, as commissioner of the United States, and two officers of the Survey were detailed for fieldwork in this connection. The Superintendent and one officer were detailed to report to the United States agent at London, England, for duty in connection with the presentation of the case of the United States to the Alaska Boundary Tribunal, and performed that duty. He also, as the commissioner of the United States on the International Delimitation Commission, inaugurated the work of marking the boundary between Alaska and Canada as laid down by the Alaska Boundary Tribunal, and one officer was detailed for field duty on this work. One officer continued on duty as a member of the Mississippi River Commission.

BUREAU OF STATISTICS.

The foreign commerce of the United States as reported by the Bureau of Statistics shows a larger total than in any earlier year. While the exports were surpassed by those of a single year, 1901, and the imports were also surpassed by those of a single year, 1903, the aggregate of imports and exports for the year is greater than that of any preceding year in the history of our commerce. The imports of the year were $991,087,371 and the exports $1,460,827,271, making the total foreign commerce of the year $2,451,914,642, which exceeded by $6,053,726 the high record established by the year 1903. The imports showed a reduction of $34,631,866 as compared with 1903, but exceeded those of any other year, and the exports were $26,937,720 below those of 1901, but exceeded those of any other year. Of the $1,460,827,271 of exports, $1,435,179,017 were of domestic production, the exports of products of agriculture being $853,643,073 and of manufactures, $452,415,921.

The total of agricultural products exported fell $19,679,809 below that of the preceding year and formed a smaller percentage of the total domestic exports than in any preceding year, while exports of manufactures were the largest ever recorded, exceeding by $44,889,762 those of the preceding year and surpassing by $18,564,165 the high record established in the year 1900. Manufactures formed, in 1904, 31.52 per cent of the domestic exports of the country, against 21.14 per cent of those of 1894, 18.81 per cent of those of 1884, and 14.58 per cent of those of 1874. The reduction in exports of agricultural products already noted was chiefly due to the small exportations of breadstuffs, which amounted during the year to $149,050,378, against $221,242,285 in the year 1903. This reduction, which occurred in all classes of breadstuffs, but especially in wheat, was due in part to a shortage in the wheat crop of the United States in 1903 as compared with that of the immediately preceding year, in part to unusually large crops in other wheat-producing countries, and in part to the growing home demand.

The imports of the year were characterized by the maintenance of the high record of manufacturers' materials in a crude condition brought into the country for domestic use. They aggregated $306,524,755 in value, against $126,643,273 in 1894, $138,496,741 in 1884, and $85,095,889 in 1874.

Our commerce with all of the various parts of the world shows a steady and satisfactory growth. To Europe the total exports amounted to $1,057,930,131, exceeding by $28,673,474 those of 1903, and by $49,896,150 those of 1902. To North America the total exports amounted to $234,909,959, exceeding by $19,427,190 those of 1903, and being much larger than those of any earlier year. To South America the total exports were $50,755,027 in value and exceeded those of 1903 by $6,617,155, and were also greater than those of any other year. To Asia and Oceania the total exports of the year were $93,202,028, a reduction of $2,625,500 as compared with 1903, due apparently to the temporary disturbance in trade conditions incident to the hostilities in Asia. The chief reduction occurs in the exports to China, which amounted to but $12,862,432 in the year 1904, against $18,898,163 in 1903 and $24,722,906 in 1902.

The value of the commerce of the United States with its noncontiguous territories—Porto Rico, the Hawaiian Islands, the Philippine Islands, Guam, Midway, Tutuila, and Alaska—was $103,562,804 in the year 1904, including in that statement $6,328,524 of gold received in the United States from the mines of Alaska. The value of the total shipments of merchandise from the United States to all of these noncontiguous territories was $38,096,528, and of the merchandise received from them $59,137,752. The sales to these territories consisted

chiefly of manufactures, breadstuffs, and provisions, and the merchandise received from them, sugar, tobacco, hemp, and other tropical products from the islands, and furs, canned salmon, and other products of the fisheries from Alaska.

The value of merchandise shipped to the United States from Porto Rico in 1904 was $11,722,826, against $2,181,024 in 1897; and the shipments from the United States to Porto Rico, $11,210,060 in 1904, against $1,988,888 in 1897. The value of merchandise shipped from Hawaii to the United States in 1904 was $25,157,255, against $13,687,799 in 1897; and that of the shipments from the United States to the Hawaiian Islands in 1904, $11,683,393, against $4,690,075 in 1897. The value of merchandise received from the Philippine Islands was $12,066,934 in 1904, against $4,383,740 in 1897; and the value of merchandise shipped from the United States to the Philippines was $4,832,900 in 1904, against $94,597 in 1897.

The Bureau of Statistics, which presents the record of the foreign commerce of the United States, reports a remarkable increase in public interest in the foreign and internal commerce of the country and in the trade opportunities offered by the markets of the world. The transfer to the Bureau of Statistics, by the act creating the Department of Commerce and Labor, of the duty of publishing the commercial reports of the consular officers of the United States, and the privilege of calling for information especially relating to the foreign and domestic commerce which it records, has largely increased the field of its operations.

In addition to the monthly statements of imports and exports formerly issued, the Bureau now publishes a daily bulletin containing reports from the consular officers of the United States, a semiweekly statement of commercial information for distribution to the press, and monthly as well as annual statements of imports and exports by articles and countries. A monthly statement relating to the internal commerce of the United States is also prepared and published, comparing movements in the leading products forming the internal and foreign commerce of the country with those of earlier years, and much valuable information is thus given to those interested in the production, transportation, and domestic consumption of the country, as well as to those interested in its foreign trade.

These studies of the internal commerce of the country include details of the movements upon the Great Lakes by articles and ports, the concentration at the great interior ports of the leading articles of domestic commerce and their redistribution from those centers, and certain data regarding the coastwise commerce of the United States. It is the desire of the Department, however, to enlarge this work, especially that relating to the coastwise commerce on both the Atlantic and the Pacific coasts.

In place of establishing a Division of Foreign Tariffs, as proposed in the first annual report, Congress made an appropriation of $3,500 for use during the fiscal year 1905, to enable the Bureau of Statistics, under the direction of the Secretary of Commerce and Labor, to collate and arrange the tariffs of foreign countries in form for distribution. These tariffs will be printed in the English language accompanied by a statement showing the equivalent in currency, weights, and measures of the United States of all foreign terms of currency, weights, and measures used in such tariffs. The reports of the International Bureau for the Publication of Customs Tariffs will be utilized so far as practicable. The Bureau has entered upon this work and it is believed the publication of this information will prove valuable to those engaged in foreign commerce.

The Bureau has also published preliminary editions of the Statistical Abstract of the World, authorized by Congress, showing the imports and exports of each country of the world and the countries from which their respective imports are drawn and to which their exports are sent.

A special report on manufactures in the foreign commerce of the United States has also been published, showing the share which manufactures have formed of the imports and exports, respectively, in each year from 1800 to 1904, the value of each principal class of manufactures exported, and all countries to which each class or group of manufactures was sent during the decennial period; also the importation of materials for use in manufacturing, by classes, and the countries from which each class is drawn.

STEAMBOAT-INSPECTION SERVICE.

It is the duty of the Steamboat-Inspection Service to inspect hulls, boilers, machinery, and appliances, and examine the qualifications of officers, engineers, and pilots of certain classes of vessels, for the general purpose of protecting the safety of life and property concerned in traffic upon the public waters of the United States. The details of the regular work of this Service for the fiscal year ended June 30, 1904, as reported by the head of the Service, are as follows:

EXPENSES.

The expenses of the Steamboat-Inspection Service during the fiscal year ended June 30, 1904, were, for salaries, $316,379.16, an increase over the previous year of $10,452.46; for contingent expenses, $8,647.65, an increase over the previous year of $4,830.55.

The increase in salaries was due in part to the appointment during the year of two additional inspectors at the port of New York, and two additional inspectors at the port of Philadelphia, Pa., and to the appointment near the close of the last fiscal year of two additional inspectors at the port of Norfolk, Va. These appointments were made

necessary by the exigencies of the service. The increase was also caused to some extent by an increase in the salaries of four clerks, made on the recommendation of their superior officers, on the ground of increase of work and meritorious service.

There was an increase of $6,389.14 in the amount paid for rent of offices, due to the necessity of the Service in New York vacating its offices in the post-office building and securing offices in the Whitehall Building at No. 17 Battery place.

The net increase in expenditures of the contingent expenses, including rents, etc., was only $4,830.55, and except for the large increase in the amount paid for rent, there would have been a decrease of over $1,500 in the contingent expenses of this year.

INSPECTION OF VESSELS.

There were inspected during the fiscal year ended June 30, 1904, 375 foreign passenger steamers, aggregating 1,821,880 tons; 8,196 domestic steamers, aggregating 3,545,526 tons; 206 gasoline and other motor vessels, aggregating 9,391 tons; and 524 sail vessels and barges, aggregating 607,926 tons.

The total number of vessels inspected was 9,301, aggregating 5,984,723 tons. Thirty-two of these vessels, with 12,389 gross tonnage, were inspected in Hawaiian waters, and 10 steamers, with 3,555 gross tonnage, were inspected in Porto Rican waters. Inspection of vessels in Hawaii and Porto Rico is made by inspectors detailed, under the authority of the Secretary, from various local districts.

There was a decrease of 25 in the number of vessels inspected during the fiscal year ended June 30, 1904, from that of the previous fiscal year, but there was an increase of 447,920 in the gross tonnage.

OFFICERS LICENSED.

There were 7,939 officers of all grades licensed during the fiscal year. The act of Congress approved May 28, 1896, extended the term of license to officers of steam vessels from one to five years, and the number licensed during the intervening years of the five-year period (1897–1902) are new licenses or licenses in raise of grade.

Of 1,694 applicants examined for color blindness 40 were rejected.

INSPECTION OF STEEL PLATES.

Under the act of Congress approved January 22, 1894, 3,765 steel plates for use in construction of marine boilers were inspected at the various mills by United States assistant inspectors detailed for that purpose. Of this number 386 were rejected for various defects. In addition to the inspection of these plates, there were inspected a large number of bars for stay and brace bolts of marine boilers, and many

tests were made at the request of various Departments of the Government service of material for boilers of Government vessels and for public buildings.

CASUALTIES.

The number of lives lost from various causes during the fiscal year was 1,303, the largest perhaps in the history of the Service, but the number of accidents was fewer; the great loss of life being due principally to six disasters, namely, the stranding of the steamer *South Portland*, on Cape Blanco, Oregon, on October 19, 1903, by which 19 lives were lost; the foundering of the steamer *Discovery* off the southeastern coast of Alaska, about November 1, 1903, with a loss of 30 lives; the foundering of the steamer *Clallam* in the Straits of San Juan de Fuca, on January 8, 1904, by which 50 lives were lost; the fire on board the steamer *Queen* off the coast of Oregon, on February 27, 1904, when the lives of 14, who embarked in the lifeboats, were lost by the staving and capsizing of the boats; the explosion of the boilers in the steamer *Fred Wilson* at Louisville, Ky., on May 26, 1904, with a loss of 11 lives; and the burning of the steamer *General Slocum* in East River, New York, on June 15, 1904, by which disaster 957 persons perished.

DISASTER TO THE STEAMER GENERAL SLOCUM.

On June 15, 1904, the passenger excursion steamer *General Slocum* was burned in the harbor of New York, with a loss of 957 lives. The appalling nature of this disaster, together with certain features attendant thereon, called for immediate and special action by the Department, and on June 23, 1904, there was appointed the United States Commission of Investigation upon the Disaster to the *General Slocum*. This Commission was made up as follows: Lawrence O. Murray, Assistant Secretary of Commerce and Labor, chairman; John M. Wilson, brigadier-general, U. S. Army, retired; Cameron McR. Winslow, commander, U. S. Navy; Herbert Knox Smith, Deputy Commissioner of Corporations, Department of Commerce and Labor, secretary; and George Uhler, Supervising Inspector-General, Steamboat-Inspection Service, Department of Commerce and Labor.

The Commission was instructed to make a thorough investigation into the disaster, to consider such other matters bearing upon the safety of passenger traffic upon the navigable waters of the United States as might be brought to its attention by such investigation, and to make a report thereon, accompanied by recommendations for such departmental or legislative action as it might deem necessary. On July 19, 1904, the Commission began its formal hearings in New York City. Twenty-three days were devoted to the taking of testimony in that city, and forty-two days to the preparation and digesting of the

same and the completion of the report. On October 11 the report was submitted to the President, and was published on October 17, together with a letter of the President thereon and the report of the Department of Justice showing the status of the criminal proceedings taken in connection with the disaster.

This investigation by the Commission revealed a very unsatisfactory condition of the Steamboat-Inspection Service in the port of New York and resulted in the removal of the supervising inspector for the second district and the local board of inspectors for the port of New York. The report of the Commission found that the methods of inspection in the port of New York and of the officials since removed were largely responsible for the disaster. The report also called attention to a number of defects and recommends changes in existing statutes and regulations relating to the Service. There is urgent need that the laws relating to the Service be strengthened and improved in accordance with the recommendations. In view of this fact attention is respectfully directed to the report and recommendations of the Commission and the accompanying letter of the President.

By order of the Secretary, there was also carried on during the months of July, August, September, and October, 1904, a reinspection of the passenger steamers in the port of New York by inspectors from other ports detailed for that purpose. This reinspection was had both for the immediate object of securing proper conditions in that port and also as a part of the work of the Commission in ascertaining the conditions existing there at the time of the disaster. The results of the reinspection were incorporated in the report of the Commission.

In pursuance of the letter of the President, the Board of Supervising Inspectors of the Steamboat-Inspection Service was convened in Washington on October 25, 1904, in special session, for the purpose of revising the rules and regulations of that Service. This work is not yet completed. Also, in pursuance of that part of the letter of the President which directs a further investigation of the Service in continuation of the investigation by the Commission, officers of the Navy have been detailed to make investigation in respective districts, as follows:

First district, Rear-Admiral Louis Kempff.
Third district, Commander Z. L. Tanner.
Fourth district, Rear-Admiral John R. Bartlett.
Eighth district, Rear-Admiral Wells L. Field.
Ninth district, Rear-Admiral F. M. Symonds.
Tenth district, Rear-Admiral W. C. Wise.

I very much regret to say that while on duty in this work Rear-Admiral John R. Bartlett died at St. Louis on the morning of

November 22, 1904. Request will be made that another naval officer be detailed to take his place in this investigation.

Upon completion of the work in the said districts, the remaining districts, to wit, the fifth, sixth, seventh, and that part of the second not included in the port of New York (which has already been considered by the Commission) will also be investigated.

These officers are now engaged upon the work assigned to them and upon completion of their work, a report will be made summarizing the conditions as found in the entire Steamboat-Inspection Service.

In closing this branch of the report I desire to express my appreciation of the work of the Commission. While the report shows that sixty-five days were consumed in the taking of evidence, the digesting of the same, and the preparation of the report, it does not show the time actually consumed in the conduct of the investigation. Some of the members of the Commission during the investigation worked on an average fifteen hours a day. Three of the members were officers of the Department of Commerce and Labor, one a retired army officer, and one an officer of the Navy on the active list. No extra compensation was paid them for their services. The clerical force detailed to assist in the carrying on of the investigation, especially the stenographers, at times worked all night in order to have the evidence ready the next day for the consideration of the Commission. This work was also done without extra compensation. The total cost of the investigation, including rent of rooms in New York, subsistence, and traveling expenses of the Commission and clerical force, was only $1,044.61.

BUREAU OF FISHERIES.

The Commissioner of Fisheries reports that the year 1904 was one of the most successful in the history of the Bureau, considered with reference to the operations of the hatcheries. The results attained in all branches have been satisfactory, and the outlook for greatly augmented work is very favorable.

The efforts of the Bureau on behalf of the fisheries are yearly becoming more generally appreciated, and a desire to actively cooperate with the Bureau has been manifested throughout the country by all persons directly or indirectly interested in the promotion of fishing as a business or as a pastime. The sums voted annually for expenditure through this channel represent only about 1 per cent of the annual value of our fisheries; the preservation of some of the most important of these is now largely dependent on the Bureau's operations, and it is easily demonstrable that in pursuing a liberal policy for the promotion of the fishing industry Congress is simply making an investment that yields returns far greater than those which attend private business enterprises.

FISH PROPAGATION.

The total number of fish distributed in fresh and salt waters of the country exceeded one and one-quarter billions, an output which has been equaled by that of only a single previous season (1902). The conditions attending the hatching of such a large number of fishes necessitate the planting of most of them in the form of fry, but increased attention has been given to the rearing of important species, and the output of adult, yearling, and fingerling fish was nearly 50 per cent larger than in any previous year.

The importance of the Bureau's fish-cultural operations, however, must not be gauged by the results during any one year, but by the average for a series of years, as peculiar seasonal conditions often materially modify the work of particular stations, sometimes favorably, more often unfavorably, and give an erroneous impression as to its extent. It usually happens that a year which is characterized by a greatly diminished yield of certain fishes is also signalized by an augmented output of others, so that the aggregate distributions remain normal. This point, which has frequently been commented on, was exemplified anew in 1904, when an exceedingly poor season for shad and whitefish was offset by the largest collections of eggs of Pacific salmon and flatfish ever known.

An important feature of the work of artificial propagation, which has often been referred to but can not be too strongly emphasized, is that an exceedingly large percentage of the young fish hatched annually are from eggs taken from fish that have been caught for market, and hence would be totally lost were it not for the efforts of the Bureau. To the many hundred millions of young food and game fishes thus produced must be added many more millions resulting from the superiority of artificial propagation over natural propagation in the matters of fertilizing and incubating eggs and of safety of the young.

The aggregate output in 1904 of 1,267,343,025 was divided as follows: Fertilized eggs, 263,123,354; fry, 994,503,040; fingerlings, yearlings, and adults, 9,716,631. The eggs shown were for the most part donated to various States to be incubated in their own hatcheries, the resulting fry being planted under the direction of the State fishery authorities. It is worthy of remark, that while the Bureau makes ample provision for maintaining the supply of fishes caught chiefly by anglers, nearly 99 per cent of the fish handled are those which are the objects of commercial fisheries.

The demand and the local facilities determine the proportion of effort directed toward the cultivation of particular species. During the year salmon were propagated at 11 stations, whitefish at 7, lake trout at 5, shad at 4, pike perch at 3, cod at 2, flatfish at 2, striped bass, white perch, and yellow perch at 1 each, and the lobster at 2.

INVESTIGATIONS CONNECTED WITH THE FISHERIES.

Attention is invited to the important branch of the Bureau's work which deals with the biological questions that arise in connection with the economic fisheries and fish culture. It is particularly concerned with the exploration of lakes, streams, and salt waters; the study of the habits, growth, and distribution of fishes and other aquatic animals; the experimental cultivation of desirable products not now the objects of cultivation, with a view to developing methods that may be applied on a wholesale basis; the investigation of the diseases of fishes under cultivation and in a wild state, and the pollution of waters in its effect on fish life, and the encouragement of biological research in the Bureau's laboratories and field operations.

The special commission for the investigation of the salmon fisheries of Alaska concluded its labors in the fall of 1903, and shortly thereafter a preliminary report was submitted embodying the general results of the investigation and making recommendations for the protection and promotion of the fisheries. This report was presented to the President on January 21, 1904, and by the President transmitted to Congress on January 27, 1904. The most important recommendations of the special commission are the establishment of Government salmon hatcheries under the control of the Bureau of Fisheries, and the placing of all matters relating to the fisheries of Alaska under the direction of the Commissioner of Fisheries.

Among the numerous special subjects the Bureau has had under consideration with reference to economic questions are the oyster, sponges, the blue crab, the diamond-back terrapin, the green turtle, and various fishes. The experiments in the artificial fattening of oysters and the cultivation of sponges from cuttings have continued with satisfactory results. The raising of the diamond-back terrapin and the green turtle from the egg is receiving attention at points in Chesapeake Bay and on the coast of Florida. States in which inquiries have been made as to the fishery resources of particular waters are Maine, North Carolina, Indiana, California, and Arizona.

The collection of information with reference to the extent and condition of the fisheries, with a study of the methods, affords the only basis for determining the condition and trend of the commercial fisheries of the country; it forms an invaluable criterion of the necessity for and the results of fish-cultural operations of the Government and States and is indispensable in furnishing a basis for legislation.

General canvasses have been conducted in the New England, South Atlantic, and Gulf States, and the Hawaiian Islands. Special inquiries have been made into the condition of the vessel fisheries centering at Boston and Gloucester, Mass.; the Pacific cod and halibut fisheries, and the whale fishery centering at San Francisco; the fisheries of the

interior waters of Florida and the interior lakes and streams of New York and Vermont. Very complete canvasses have been made of the statistics and methods of the salmon industry of Washington, Oregon, California, and Alaska in conjunction with the work of the special salmon commission.

ALASKAN SALMON FISHERIES.

During the past year there has been a marked decrease in the salmon pack of Alaska in all grades. In 1902 the season's catch was 2,631,320 cases, in 1903, 2,631,782, and in the present year it will probably not exceed 1,935,000, a falling off in two years of 696,320 cases. Throughout the entire world there has been a large reduction of the pack of salmon, which, approximately, is only 2,810,000 cases for 1904 against 4,317,000 cases for 1902, a loss of 1,507,000 cases. These figures are not exact, as the detailed statistical reports required of the packers are not yet at hand.

Notwithstanding this decrease in the volume of the pack, there has been a marked increase in its aggregate market value, the receipts for 1903 having been about 30 per cent more than those of the preceding year, and from present indications a further increase will be shown this year.

The steady decrease in the salmon pack of Alaska is due to constantly enlarging operations of the packers beyond the natural resources of the streams, and to unfavorable conditions under which the propagation of salmon is carried on. The regulations promulgated by this Department under the law require that persons engaged in taking salmon shall maintain suitable artificial propagating plants or hatcheries, and shall produce yearly and plant in the natural spawning waters of each fishery so operated red salmon fry in such numbers as shall be equal to at least ten times the number of salmon of all varieties taken from the said fishery during the preceding year. Despite the safeguards which have thus been thrown about the salmon industry by the law and the regulations, and by the personal inspection given by the agents of the Government, the supply of fish, as has been noted, is apparently steadily decreasing. It has been found impracticable to enforce adequate artificial propagation by private parties. I therefore urge the favorable consideration by Congress of the estimates which have been submitted for the establishment of salmon hatcheries under the direct supervision of the Department.

This need for artificial propagation was touched upon in the Department's last annual report, and the condition which has been presented would seem to strongly commend to the Congress the wisdom and necessity of immediate action. Very much more than the amount which has been asked for in the estimate has been paid into the Treas-

ury through the operation of the law taxing salmon canners and salters. The sum collected from this source will not be less, probably, than $75,000 for the current year, and in the past has exceeded $100,000 in a single year.

ALASKAN FUR-SEAL SERVICE.

The agents who, under the law, are charged with the management of the seal fisheries and with certain duties in connection with the care of the native inhabitants of the Pribilof Islands have furnished the Department with interesting details of the work done during the past year.

Last spring, in view of the steady diminution of the seals on the rookeries, and with the object of keeping an ample reserve of breeding bulls, the Department adopted measures for exempting from the killing 2,000 of the young male seals of killable age. These measures were carried out in an effective manner during the past season. The quota of skins to be taken by the lessee company was also reduced from 30,000, allowed in the preceding year, to 15,000 for the current year.

Especial care was also observed by the Government agents in collecting information respecting the seal life, more especially that bearing upon the diminution of the herd.

SEAL CATCH OF 1904.

As a result of the sealing operations for the year ending with August, 1904, 13,128 skins were taken and shipped, of which number 11,132 were obtained on St. Paul Island and 1,996 on St. George Island, as against a total of 19,292 skins taken in 1903. The decrease in the number of skins taken, 6,164, was due largely to the reservation of young male seals, referred to above, and other restrictions upon the killing deemed necessary to preserve the life of the seal herd.

FOX RAISING.

An industry pursued incidentally with that of sealing on the Pribilof Islands is that of raising the blue fox for its pelt. These animals, under the system in use, are fed and cared for as if domesticated. The foxing industry is carried on under a lease with the sealing company. Last winter 471 skins were taken on St. George Island. The proceeds of the skins are applied to the support of the native inhabitants, whose services are availed of in the taking and curing of the pelts.

CARE OF NATIVES.

The reports further indicate that the physical comfort of the natives, as well as their education and general welfare, have been carefully looked after by the agents in charge. The schools for native children

have been conducted on each island; places of worship have been kept up, and the observance of good order maintained generally.

BUREAU OF NAVIGATION.

The Commissioner of Navigation reports that the documented merchant shipping of the United States at the end of the fiscal year comprised 24,558 vessels of 6,291,535 gross tons, the largest tonnage in our history. Less than one-sixth of this tonnage is registered for foreign trade. During the past four years, however, our registered steam tonnage has increased 212,314 gross tons, while our registered sail tonnage has decreased 140,740 gross tons. American shipping in foreign trade has thus become more efficient, and in the past fiscal year American ships carried 10.3 per cent of our exports and imports, compared with 9.3 per cent in the year ended June 30, 1900. The upward tonnage movement of the last four years now seems to have been checked.

For the first time since 1812 a fiscal year has passed without the completion of a single square-rigged vessel in the United States. The United States shares in the general decline of sailing vessels, and the opportunities for their employment in the foreign trade grow steadily less. The completion of the Panama Canal will greatly curtail even present opportunities.

Training on sailing vessels, so I am informed, is regarded as an almost indispensable qualification of the deck officer of a steamer. If we are to have a merchant marine the lack of officers will be felt as soon as steam tonnage in foreign trade increases. The subject is mentioned now for the consideration of Congress in the future.

Contracts made several years ago have been performed, and our principal steel shipyards on the seaboard are building very few seagoing steel steamers except warships for the Navy. Indeed, were it not for Government work under appropriations by Congress some of them would now be closed for want of work and others soon would be. The stoppage of these large plants and the scattering of their trained workmen would be more than an ordinary industrial misfortune. These plants are a necessary part of the system of national defense, and when they shut down and their men are dispersed the cost of warships is accordingly enhanced.

The Government program of naval construction, if executed through further appropriations by Congress, will help to keep the yards busy, but it will not alone suffice. The situation reinforces all the arguments which of late years have been advanced in support of a definite and durable legislative policy for the promotion of the American merchant marine. I have not deemed it necessary or wise to consider this subject at length in this report, however, for the

reason that its importance has already been recognized by executive and legislative action. The Commission appointed by Congress at its last session, on the recommendation of the President, has doubtless given the subject the fullest consideration, and will report at the coming session of Congress.

TONNAGE TAX.

Tonnage taxes during the year amounted to $826,023.01, a decrease of $59,818.32 compared with the previous year. The reasons for the decrease are shown in the report of the Commissioner of Navigation, to which the attention of Congress is invited. That report also furnishes detailed information on the matters just considered and suggests changes in the laws and in methods of their enforcement.

REMISSION OF PENALTIES.

One of the duties transferred from the Secretary of the Treasury to the Secretary of Commerce and Labor by the act of February 14, 1903, is the consideration of applications for the remission of fines, penalties, and forfeitures incurred for violating any provision of law relating to vessels or seamen. The power of remission was first bestowed upon the Secretary of the Treasury by the act of May 26, 1790, after the first acts of Congress in imposing penalties on vessels, their owners, and masters had been in operation less than a year.

From time to time the power has been extended as statutory obligations upon shipping have increased. Acts authorizing remission or mitigation and acts imposing penalties must be read together in executing the will of Congress. During the past fiscal year 706 applications for remission or mitigation of penalties, incurred for the violation of 64 sections of the Revised Statutes, or of acts passed since the revisions, have been acted upon by the head of the Department, after review by the Bureau of Navigation.

The report of the Commissioner of Navigation shows the ports from which these violations have been reported, the statute alleged to have been violated, and in many cases the nature of the offense. The papers in these cases would fill a volume of about 1,200 printed pages or more. As each case involves the exercise of a discretionary power on facts and conditions differing from nearly all other cases, the action taken can be fully understood only by the publication of all the papers in each case. The summaries in his report give a fair idea of the scope of the exercise of the remission power during the first year of its bestowal upon the Secretary of Commerce and Labor.

UNITED STATES SHIPPING COMMISSIONERS.

United States shipping commissioners stationed at 20 seaports during the past year superintended the shipment, reshipment, and discharge of 201,273 seamen for American vessels. The offices of

these commissioners should be inspected at least once a year. Such inspection was formerly made from time to time by special agents of the Treasury Department at the request of the Bureau of Navigation. These inspections could be made at the time customs-house inspections were made without extra cost. It is not clear how the inspection can be made and paid for at present in the absence of an appropriation which can be used for that purpose. During the year efforts to suppress crimping, especially at southern seaports, have been more successful than usual.

BUREAU OF IMMIGRATION.

The important work of this Bureau is fully and ably considered by the Commissioner-General of Immigration in his report for the fiscal year ended June 30, 1904. The statements, tables, and statistics submitted by him show that for the year the total of arrivals of aliens at ports of the United States was 812,870, exclusive of 27,844 admitted for the purpose of passing through the United States to foreign territory. Of these arrivals 30,374 entered through ports of Canada, 10,742 entered ports of the insular possessions of the United States other than those of the Philippine Islands, and 771,754 were admitted at seaports of the United States. More than one-half of the entire immigration was composed of the Italian, Hebrew, Polish, Slovak, and Magyar races. There were decreases in arrivals of 37,326 from Italy, 28,885 from Austria-Hungary, and 5,704 from Japan. There was an increase of 18,643 from Great Britain, and approximately of 100 per cent from China. Of the total arrivals 549,100 were males and 263,770 were females. As to age, 109,150 were 14 years old or under, 657,155 were between 14 and 45, and 46,565 were 45 or over. The records show 3,953 as able to read but not to write, and 168,903 as illiterate, leaving a remainder of 640,014 who, it is assumed, could both read and write. The total amount of money shown by the arrivals was $20,894,383, or about four and one-half millions more than the aggregate amount brought by the larger number of alien arrivals of the preceding year. There were denied admission at seaports of the United States as members of the various classes excluded by law 7,994 aliens, and 779 previously admitted were deported upon the ground that they were in the country in violation of law.

There are confined in public and private charitable, penal and reformatory institutions in this country a total of 44,985 aliens; of these, 20,485 are in insane asylums, 9,825 are confined for the commission of crimes, and 14,675 are dependents—upward of 25,000 of these aliens will be confined for life. The burden of maintenance in this connection is distributed in accordance with the ratio of alien residents in the different sections of the United States, the State of New York alone caring for

nearly 6,000 insane aliens. During the year the Department considered 1,178 appeals from decisions of boards of special inquiry at the various ports. Of these 517 were sustained, 660 dismissed, and 1 withdrawn.

Attempts are frequently made to introduce into the United States a large number of aliens under what is known as the padrone system. During the year there arrived at the port of Boston several shiploads of Greek lads, amounting to 898, many of whom were mere children. In accordance with the provisions of law, 127 of them were returned. Officers of the service detailed to make investigations in foreign countries report widespread solicitation and encouragement of aliens to emigrate to the United States. Persistent efforts have also been made to import alien miners and skilled workmen in other lines.

Notwithstanding the fact that during the year fines aggregating $28,400 have been paid by the transportation companies, they continue to disregard the provisions of the law aimed to prevent the bringing of diseased aliens to ports of this country. In this connection it is important to note that the medical inspection conducted at Yokohama and Nagasaki, Japan, from September 22 to the end of the year, through the offices of the Public Health and Marine-Hospital Service, resulted in the detection of nearly 1,300 aliens afflicted with dangerous contagious diseases who were attempting to embark from those ports.

As the result of the adoption of suitable regulations the violations of the immigration law by alien seamen have practically ceased. Seamen who are discharged or desert from their vessels are now examined as other aliens.

The structures maintained at the different ports of entry for the accommodation of aliens detained pending examination have been materially improved, but it will be necessary to make further improvements and build new structures. This is especially true at the port of San Francisco, where, in addition to aliens generally, the bulk of Chinese immigrants apply for admission.

THE CHINESE EXCLUSION LAWS.

Signal success has marked the administration of the Chinese exclusion laws during the year. This is especially true in relation to the enforcement of the law along the Canadian boundary. An agreement has been reached whereby the transportation lines deliver directly into the hands of the United States officers for examination Chinese brought by them through Canada to the United States. If rejected they are returned to China at the expense of the companies.

During the year the Supreme Court decided that applicants who claim the right of admission as American citizens on the ground of alleged birth in the United States are required to first submit the evidence upon which they base their claims to administrative officers in

accordance with the regulations of the Department. As a result of this decision, 321 out of a total of 412 applicants have been returned to China at the expense of the transportation companies.

The issuance of duplicate certificates of residence has been requested in 476 cases by Chinese laborers who profess to have lost the originals. The Department is in possession of information that 340 certificates of residence have been pledged to pawnbrokers.

During the year 792 registered laborers departed from and 1,392 returned to the United States; of 2,106 seeking the privilege of transit all except 26 were admitted for that purpose; and of 1,721 Chinese persons arrested for being unlawfully in the United States, 783 were deported. The Department considered 282 cases of appeal from the excluding decision of officers at ports of arrival, of which 101 were sustained and the remainder dismissed.

By authority of the act of April 29, 1902, the Department promulgated regulations admitting Chinese to take part in the Louisiana Purchase Exposition, their departure at the close of the exposition being assured under bonds in the penalty of $500 in each case. These regulations of the Department have been improperly charged with excluding merchant exhibitors or visitors. Attention is called to the fact that the regulations relate to laborers only, and do not exclude merchant exhibitors or visitors. The law and the treaty secures to visitors and merchants the right to enter at all times.

COST OF THE IMMIGRATION SERVICE.

The cost of the immigration service during the year was $1,296,808.85, exclusive of the sum of $239,743.01 expended in the construction of new buildings, improvements, alterations, the enlargement of Ellis Island, the building of the ferryboat, etc. The balance of $1,389,403.08 on hand at the close of the fiscal year is $112,920.39 in excess of the balance on hand at the corresponding period last year. There was also expended $75,536.10 for deporting Chinese, an average cost of $112.24 for each deportation. Of the total appropriation of $500,000 for the enforcement of the Chinese exclusion acts, $432,220.96 was expended for salaries and expenses, including the cost of deportation, and for miscellaneous items, leaving on hand at the close of the fiscal year a net balance of $67,779.04.

LEGISLATION RECOMMENDED.

New legislation is again recommended. Provision should be made for the distribution of aliens in accordance with views heretofore expressed by this Department; for the physical inspection of aliens by officers of the Public Health and Marine-Hospital Service stationed at the ports of foreign embarkation; for the establishment of a moral and manual standard for admissible aliens; for the compilation of data

in regard to the annual departures of aliens from the United States; for the registration of all Chinese lawfully resident in the United States at this time, thus furnishing them with certificates which will afford them immunity from arrest, and for placing restrictions on the right of judicial officers to release Chinese persons on bail.

It is also recommended that a treaty arrangement be made which will authorize the location in China of Department officers to discharge duties now performed by American consular officers. The effect of this would be to transfer the investigation, now conducted in part at ports of arrival, to the homes of Chinese applicants in China, where it should be possible to make such examination as would establish conclusively the status of any applicant. This would leave for determination upon arrival at a port of the United States only the identity of any examined Chinaman with the person described in the certificate presented by him.

BUREAU OF STANDARDS.

The Director of the Bureau of Standards reports that the work of the Bureau has been rapidly developing during the fiscal year just closed. Notwithstanding the fact that the work is still carried on in temporary quarters in several buildings, a large amount of testing and research has been completed. The Mechanical Laboratory has been occupied for several months, and the increased space thus made available has enabled the Bureau to extend the range of its work. The Physical Laboratory will probably be ready for occupancy during the month of October.

During the year many new lines of testing have been organized and are well under way. The volume of testing has greatly increased. The standards and measuring instruments tested during the year aggregated 7,756, being 400 per cent greater than during the previous fiscal year. Work has been done for practically all departments of the Government, for State sealers, scientific institutions, electrical companies, manufacturers of mechanical standards, thermometers, weights and measures, and for the general public. The scientific staff has also given much attention to the designing of apparatus and standards for the various kinds of testing. Much of this apparatus has been constructed in the instrument shop of the Bureau, under the personal supervision of the specialists concerned.

The exhibit of the Bureau of Standards at the Louisiana Purchase Exposition is an educational and historical presentation of the general subject of standard weights, measures, and measuring instruments; in several cases the work of testing is shown. An increasingly important service rendered by the Bureau has been the dissemination of accurate knowledge concerning weights and measures and the various kinds of

measurement. The large number of inquiries indicates a widespread demand for such information. Seven circulars descriptive of the lines of testing which the Bureau is prepared to undertake have been issued during the year. The publication of a series of bulletins which will embody the results of the investigations, researches, and other work of the Bureau of importance to the scientific, technical, and manufacturing interests of the country will soon be inaugurated. A considerable amount of research concerning fundamental problems connected with fixing the standards and determining methods of measurement has already been completed and prepared for early publication.

In the important branch of the Bureau's work which is devoted to standards of length, mass, and capacity, the work of testing has grown steadily. More than 1,600 instruments were tested by this section during the year. The United States prototype meter was compared with the international meter at Paris by the associate physicist in charge of this work. A convention of State sealers has been planned, and methods of calibrating volumetric apparatus decided upon. Plans were also developed for standardizing time-measuring instruments, a work which will soon be inaugurated.

Under the supervision of the Bureau an examination of the weights and measures and methods of measurement used in the various custom-houses has been made. The results of this work have added to the efficiency and accuracy of that branch of the service. Weights and measuring instruments have been tested at the Bureau and distributed to the various custom-houses, provisional limits of tolerance have been fixed, and a plan for systematic inspection is being developed.

In the measurement of temperature the Bureau is rendering important service to thermometer and pyrometer makers and to the various industries which require such apparatus. The hearty cooperation and active interest accorded this work have done much to facilitate the efforts of the Bureau to establish a uniform scale of temperature. More than 5,300 thermometers and other temperature measuring instruments have been tested during the year. A laboratory for pyrometer testing has been equipped with the necessary apparatus for this work, and an investigation of the various types of high temperature measuring instruments has just been completed.

The optical work has included a study of polariscopic methods of sugar analysis for the Customs Service, and some important experimental and theoretical work in connection with the conduction of electrical discharges through gases, the results of which will soon appear.

The testing of engineering instruments, organized during the year, has made satisfactory progress. An investigation of the screw threads of fire-hose couplings now in progress reveals a chaotic condition of the standards used in the important cities and a great need for the adoption of standard couplings.

Work has been done by the chemical staff in the preparation of standard specifications for the purity of chemical reagents, a subject of vital importance to the chemical interests of the country, and in the planning of the equipment of the laboratory; valuable assistance has been rendered to the other sections of the Bureau.

The electrical work of the Bureau was transferred during the year to the new Mechanical Laboratory. This work has included the calibration of resistance and standard cells, the determination of inductances and capacities, the testing of electrical instruments, and photometric work. Although this work has but recently been organized, 167 electrical standards and measuring instruments and 589 incandescent standard lamps have been tested. Researches have been conducted especially with reference to the development of more refined methods of electrical testing. Some of the results of these investigations have been presented at the International Electrical Congress, and details will soon be published by the Bureau. The laboratory of the Bureau in the Electricity Building of the Louisiana Purchase Exposition was a working exhibit of the process of standardizing electrical instruments and standards as conducted at the Bureau.

WIRELESS TELEGRAPHY.

The Inter-Departmental Board appointed by the President to consider the entire question of wireless telegraphy in the service of the National Government has recommended that the Department of Commerce and Labor should have the duty of issuing licenses for wireless telegraphic marine stations in special cases, under such regulations as will prevent interference with stations necessary to the national defense. It has also recommended that all private stations in the interior of the country should be under the supervision of the Department of Commerce and Labor. To prevent the control of wireless telegraphy by monopolies or trusts, the Board deems it essential that any legislation on this subject should place the supervision of it in the Department of Commerce and Labor.

The proposed Federal control of telegraph stations using wireless apparatus must, of course, be within constitutional limits. The recommendations of the Inter-Departmental Board, in so far as they concern this Department, have been referred to a board of the Department's officers. Should that board submit a legislative project on the subject which meets the approval of the Department it will be transmitted to Congress.

CONCLUSION.

The foregoing report deals with the work of the fiscal year 1903–4, during which time the Department was presided over by my predecessor in office. None of the matters referred to or discussed in the

report came under my personal supervision, and for that reason I have had to rely almost entirely, in the preparation of the report, upon the heads of bureaus and chiefs of divisions of the Department.

I find that the work of organizing the Department has been as thorough and complete as was possible under the available appropriations, and that the men who have been selected to fill the important staff positions are especially efficient and in every way qualified for the performance of the important duties of their offices. The credit for the organization of the Department is due, in my judgment, to the first Secretary, the Hon. George B. Cortelyou, whose great executive ability and thorough familiarity with governmental matters enabled him in so short a time to organize and equip a Department of the Government which promises so much for the future development of the commercial and industrial interests of the country.

V. H. METCALF,
Secretary.

REPORTS

OF THE

DEPARTMENT OF COMMERCE AND LABOR

BUREAU OF CORPORATIONS
BUREAU OF LABOR
LIGHT-HOUSE BOARD
BUREAU OF THE CENSUS
COAST AND GEODETIC SURVEY
BUREAU OF STATISTICS
STEAMBOAT-INSPECTION SERVICE
BUREAU OF FISHERIES
ALASKAN SALMON FISHERIES
BUREAU OF NAVIGATION
BUREAU OF IMMIGRATION
BUREAU OF STANDARDS

21301—05——4

REPORT

OF THE

COMMISSIONER OF CORPORATIONS

51

REPORT

OF THE

COMMISSIONER OF CORPORATIONS.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF CORPORATIONS,
Washington, December 19, 1904.

SIR: I have the honor to submit the first general report of the Commissioner of Corporations, covering the period from the organization of the Bureau to June 30, 1904.

The law under which the Bureau of Corporations was created is section 6 of the act of Congress establishing the Department of Commerce and Labor, approved February 14, 1903, reading as follows:

SEC. 6. That there shall be in the Department of Commerce and Labor a bureau to be called the Bureau of Corporations, and a Commissioner of Corporations who shall be the head of said bureau, to be appointed by the President, who shall receive a salary of five thousand dollars per annum. There shall also be in said bureau a deputy commissioner who shall receive a salary of three thousand five hundred dollars per annum, and who shall in the absence of the Commissioner act as, and perform the duties of, the Commissioner of Corporations, and who shall also perform such other duties as may be assigned to him by the Secretary of Commerce and Labor or by the said Commissioner. There shall also be in the said bureau a chief clerk and such special agents, clerks, and other employees as may be authorized by law.

The said Commissioner shall have power and authority to make, under the direction and control of the Secretary of Commerce and Labor, diligent investigation into the organization, conduct, and management of the business of any corporation, joint stock company, or corporate combination engaged in commerce among the several States and with foreign nations, excepting common carriers, subject to "An Act to regulate commerce," approved February fourth, eighteen hundred and eighty-seven, and to gather such information and data as will enable the President of the United States to make recommendations to Congress for legislation for the regulation of such commerce, and to report such data to the President from time to time as he shall require; and the information so obtained or as much thereof as the President may direct shall be made public.

In order to accomplish the purposes declared in the foregoing part of this section, the said Commissioner shall have and exercise the same power and authority in respect to corporations, joint stock companies and combinations subject to the provisions hereof, as is conferred on the Interstate Commerce Commission in said "Act to regulate commerce" and the amendments thereto in respect to common carriers so far as the same may be applicable, including the right to subpœna and

From the establishment of the Bureau to June 30, 1904, other expenses were as follows:

Furniture (as per inventory June 30, 1904)	$5,472.72
Books on hand (as per inventory June 30, 1904)	775.80
Supplies (in part estimated)	3,512.48
Printing (in part estimated)	823.40
Total	10,584.40

In order to show in full the actual cost of the operation of the Bureau the items of rent, janitor and watchman service, telephone service, and light and heat should be added. As these expenses are borne by the Department out of general appropriations for that purpose, and no distribution thereof is made among the several bureaus and offices, these items can only be estimated, and for the purpose of this statement they are estimated at $5,000.

We may, therefore, summarize as follows:

Salaries, traveling expenses, and per diem	$66,119.05
Furniture, books, miscellaneous supplies, and printing	10,584.40
Rent, etc., as above estimated	5,000.00
Total expense of operation of Bureau of Corporations from February 25, 1903, to June 30, 1904	81,703.45

This statement of the cost of the Bureau has been made without regard to the appropriation drawn upon. Certain employees of other bureaus and of the Secretary's office have been detailed to this Bureau; the expenses of such details have been included in the above although not paid from appropriations specifically made for this Bureau. On the other hand, certain employees of this Bureau have been detailed to the Secretary's office and to other bureaus of the Department; and the expenses of such, although paid from appropriations for this Bureau, have not been included in the above. The object is to show the actual cost to the Government of the operation of the Bureau of Corporations. Under normal conditions—after the exigencies incident to the organization of the new Department have ceased—there will be no need for the exchange or use of details.

LIBRARY OF THE BUREAU.

The Bureau's library consists of the following books:

	Volumes.
Law: Text-books, reports, and digests	416
State codes and sessions laws (including 132 pamphlet constitutions and laws)	409
Statistical publications, chiefly United States public documents (including 62 unbound)	229
Insurance publications, State laws, and reports (including 118 pamphlets)	630
Reports of State officers, boards, and bureaus (including 59 pamphlets)	256
Works on economics	22
Cases: Printed pleadings, etc. (pamphlets)	20
Total	1,982

Only such books as may be termed "tools of trade" have been purchased. The Congressional Library is used for all books of casual reference or needed for special investigation.

THE PERSONNEL OF THE BUREAU.

Special care has been exercised in the selection of the employees of the Bureau, in order to obtain specially qualified and technically trained men. They have been chosen from the certifications of the United States Civil Service Commission, or by the approval of the Commission, or by transfer from other bureaus and Departments of the Government. The satisfactory results obtained prove the efficiency of the present administration of the civil-service act.

The routine administrative work of the Bureau has been organized in accordance with the most improved business methods, the purpose being to obtain the highest degree of efficiency, accuracy, and promptness in daily work, and at the same time to exercise strict business economy. Not only have the expenditures been within the appropriations, but the work is worth what it cost.

During the period of the organization of the Department of Commerce and Labor the Secretary was obliged to detail the Commissioner, the Deputy Commissioner, and various employees of the Bureau of Corporations upon purely departmental work. This necessity arose from the fact that the first appropriations were insufficient to meet the absolute needs of the Department.

The appropriations for the year ending June 30, 1905, are $156,220.

The estimate for the year ending June 30, 1906, are $236,420, being an increase of $80,200, or about 51 per cent.

The request is made that the wording of the appropriation be changed so that there will be no statutory division of the sum appropriated among special agents, special attorneys, and special examiners. The need of this change can not be too strongly urged. The work of the Bureau can not be conducted along fixed lines of employment, for the reason that in one investigation legal work will predominate and in another financial or economic, and hence the specific character of employment should be left to the discretion of the Secretary and the Commissioner. As shown by experience, much work in a special investigation is temporary, the character of which can not be foreseen. A great advantage in the use of the appropriation as requested in the estimates is that field and office men can readily be exchanged in accordance with the needs of special investigations. It has been found that better results and greater economy are possible by requiring field officers to work up in the office the reports of their own investigations and examinations.

PURPOSE AND SCOPE OF ORGANIC LAW.

The first work of the Bureau was a thorough study of the purposes and scope of its organic law, the jurisdiction and powers of the Commissioner, and methods of procedure. Such study of necessity covered a wide range of legal research, including both Federal and State legislation and judicial decision.

The Bureau is in a measure an arm of the legislative branch of government, charged with the duty of obtaining information to which Congress is entitled on the subject of interstate and foreign commerce. It is placed under the executive branch of the government for the purpose of administration and continuity of action.

Congress, having the constitutional authority to legislate in regard to interstate and foreign commerce, has the power to obtain all infor-

mation necessary to make such legislation adequate and appropriate. Congress has in this case created the Bureau of Corporations as a specific means of carrying out the purpose desired, prescribing the method of investigation by the Bureau and of transmission of the information obtained to Congress through the Executive.

A system of reports made through the President is obviously appropriate because of the necessity of voluminous and extensive investigations involving the private affairs of citizens. Such reports must needs be passed through some sifting process and presented to Congress in such form as to afford a basis for legislation, and with as great a degree of publicity of detail as may be consistent with the proper protection of private rights. It appears, therefore, that the means provided by Congress are constitutional and peculiarly appropriate for carrying out the intricate, far-reaching, and delicate work that the proper execution of this constitutional power calls for.

The powers of the Bureau of Corporations are described largely by reference to those of the Interstate Commerce Commission. The chief difference between the two administrative bodies is that while information is collected by the Interstate Commerce Commission mainly for the purpose of *enforcing* a law, the information to be collected by the Bureau of Corporations is to be used for the purpose of *making* law—a more fundamental and primary corollary of the legislative function, more intimately connected with the constitutional power of regulating interstate commerce, and carrying with it, therefore, as great, if not greater, authority for the obtaining of information over the subject-matter in question.

That the end—the regulation of interstate commerce—is legitimate and within the scope of the Constitution, and that the means—the Bureau of Corporations and its powers—are appropriate, are adapted to that end, are not prohibited, and are consistent with the letter and spirit of the Constitution, is indisputable; and the creation of the Bureau of Corporations for the purpose specified, and with the powers given in its organic act, is a constitutional exercise of the legislative power of Congress.

The jurisdiction of the Bureau, by the organic act, extends over all agencies, other than individuals, engaged in interstate and foreign commerce, except common carriers under the jurisdiction of the Interstate Commerce Commission, and is limited only by the decisions of the Supreme Court of the United States defining "interstate and foreign commerce." It is unwise, even were it possible, to attempt here to summarize or restate such definitions. From the earliest opinion of Chief Justice Marshall, i. e., "that commerce is intercourse," there has been a gradual development or elaboration of the definition in accordance with the growth and change of commercial conditions, until now practically all the great industries may be considered subject to Federal authority for certain purposes under the commerce clause of the Constitution.

WORK OF THE BUREAU.

The work of the Bureau falls naturally into the following divisions:

(*a*) *Special investigations* of particular corporations, joint-stock companies, or corporate combinations engaged in interstate and foreign commerce. For this purpose the Commissioner is given power to compel the production of testimony.

(*b*) The collection and publication of *useful information* regarding corporations engaged in interstate and foreign commerce.

(*c*) *Insurance companies* are included specifically under the work of obtaining useful information; but because of the decisions of our courts regarding insurance the question of the power of the Commissioner over insurance companies requires special consideration.

Federal control over insurance and the exercise over insurance corporations of the compulsory powers of the Commissioner rest upon the same legal basis, raising at the outset the question whether insurance is in any of its forms interstate commerce.

A long line of decisions of the Supreme Court of the United States, commencing with Paul *v.* Virginia (8 Wall., 168), established the legal proposition that insurance was not interstate commerce in any of its forms—fire, life, or marine—as presented to the court. This line of decisions has been further supported by the uniform holdings of State courts.

If this legal proposition is irrevocably settled, the powers of the Commissioner relative to insurance are purely of a statistical, voluntary, noncompulsory nature. He may collect, compile, and publish such information as may be voluntarily furnished to him, but he can not compel the production of such information, nor would he be justified in recommending any Federal legislation directed at Federal control of insurance. The rapid development of insurance business, its extent, the enormous amount of money and the diversity of interests involved, and the present business methods suggest that under existing conditions insurance is commerce, and may be subjected to Federal regulations through affirmative action by Congress. The whole question is receiving most careful consideration upon both legal and economic grounds.

(*d*) *Legal research.*—A most important branch of work is the deter mination of the entire legal situation applicable to the Bureau, to its powers, and to its present and future work, developing the same along the following lines:

1. Compiling and digesting court decisions applicable to the Bureau, to its powers of investigation, its legal status and the means by which it shall perform its functions, and to the great questions and problems which are before the Bureau.

2. Compiling and digesting Federal and State statute laws relating to the purposes of the Bureau.

3. Compiling and comparing the laws of foreign countries upon kindred subjects.

4. Compiling and digesting in summarized and available form facts showing the actual operation of such laws now in existence.

5. Preparing in outline such possible and desirable modifications of existing laws relating to the subject-matter of the Bureau's work as may be from time to time indicated by development of that work.

6. Determining the legal relations that would be established by the enactment of such possible modifications with especial reference to the effects thereof on State laws, and the interrelation of Federal and State jurisdictions.

(*e*) *Economic and statistical work.*—In this work there will be the greatest possible use of all material available from other Government offices in order to avoid unnecessary duplication of effort, expense, and almost inevitable conflict in results. Statistics will be compiled and

published only for the purpose of properly presenting the special problems with which the Bureau is dealing. The economic work will necessarily be of vital importance in preparing and presenting the results of special investigations, and in rightly interpreting the mass of information obtained.

POWERS OF THE COMMISSIONER.

The powers of the Bureau are vested in the Commissioner of Corporations; he is the head of the Bureau, has all the usual powers necessary for its administration, and upon him is conferred the authority for carrying out the purposes of the Bureau's creation.

The power of investigation and report is stated directly, but in general terms, in the organic act.

The details, exact extent, and machinery for exercising these general powers are established by reference in said act to the statutory powers of the Interstate Commerce Commission.

To determine fully the powers of the Commissioner it is necessary, therefore, to consider the powers of the Interstate Commerce Commission with reference to their applicability to the character and purpose of the Bureau of Corporations.

From this it appears that the powers of the Commissioner are as follows:

Subject to the direction of the Secretary of Commerce and Labor, to investigate the organization, conduct, and management of corporations (other than common carriers) engaged in interstate commerce; to compel by subpœna the attendance of witnesses, and the production of books, papers, and documents for such purpose; to administer oaths; to obtain the aid of the Federal courts in the procuring of such testimony; to require reports from such corporations; to investigate the legal conditions applicable to such corporations, and the legal questions raised thereby; and to report to the President the information so acquired. The Commissioner may determine the form of procedure in investigations, subject to the qualification that hearings may not be in public.

The Commissioner has no judicial powers, nor can he make or enforce any orders against corporations or private individuals other than those directly necessitated in procuring information. He can impose no fines or penalties. Even within the scope of his duties, he must invoke the aid of a Federal court for the enforcement of his proper orders or requirements.

Many specific powers of the Interstate Commerce Commission, relating to (*a*) the issuance of orders for remedial action, (*b*) enforcement of such orders, (*c*) decisions on contests between individuals, (*d*) matters exclusively concerning railroads and common carriers, and (*e*) details as to composition, salary, and internal administration of the Commission, are clearly inapplicable to the character and purpose of the Bureau of Corporations, and may not be exercised by the Commissioner.

He can not make investigations, or procure or furnish information by means of his compulsory powers, for the purpose of enforcing penal provisions other than those contained in the organic act of the Bureau, nor can he furnish information so procured to private individuals for their personal use.

His compulsory investigatory powers are further limited by the rights of privacy of the citizen, which may not be invaded by inquiry except for a definite constitutional and legal object, and only such matters may be investigated as relate to and give information upon the objects of the Bureau and its work.

His entire compulsory powers of inquiry are further confined to the consideration of facts relating to corporations, joint stock companies, or corporate combinations.

A more general, though noncompulsory power is also conferred upon the Commissioner to collect, compile, and publish, under direction of the Secretary of Commerce and Labor, useful information concerning corporations in the United States engaging in interstate or foreign commerce, including those engaged in insurance.

He shall also perform such other duties as may hereafter be provided by law.

LEGAL WORK OF THE YEAR.

The objects toward which the legal work of the Bureau has been directed are as follows:

(1) To ascertain as fully as possible and present in available form the legal conditions under which corporate business is now being carried on, in so far as such conditions are peculiar to such corporate business.

(2) To ascertain and develop fully, from court decisions and otherwise, those constitutional powers and restrictions upon which present conditions are based, and also those which must necessarily be involved in any future legislation for the improvement of the present legal corporate conditions.

In pursuance of these general purposes, the legal work of the year has been as follows:

I. INVESTIGATION OF STATE AND TERRITORIAL CORPORATION LAWS AND RECORDS.

To determine the legal conditions of corporate business, it was necessary to obtain a complete record of the statute law governing the creation and operation of corporations, reduced to such shape that the statutory provision relating to a given topic, in any State, would be immediately available. An early undertaking, therefore, was a compilation of State and Territorial statute law relating to industrial corporations. The plan of this compilation differs in several particulars from the plan followed in other compilations of the same general character.

From the whole body of corporation law, the provisions relating to selected topics only were extracted; but the topics selected were intended to embrace every statutory provision that goes to make up all the *substantive* law of private corporations of the ordinary business or industrial type, and only such topics were omitted as relate to matters of practice and matters of form or detail. Thus, the heads under which the various provisions were collected are: "Structure and organization;" "Purposes and powers;" "Limitations and restriction;" "Management;" "Amendments and changes;" "Rights and liabilities;" "Corporation and State;" "Intercorporate relations;" "Trusts and monopolies;" "Foreign corporations;" "General property tax," and "License tax." Under these general heads fall others,

which are more specific, and these in turn embrace the particular topics selected (aggregating a total of 106). The various topics are numbered consecutively, and while the laws of each State are separately compiled, the same arrangement and enumeration is preserved in every case, in order to facilitate reference and comparison.

The following is the structural arrangement adopted by the Bureau:

State and Territorial statute law relating to industrial corporations.

—— (*Name of State.*)

ART. I.—STRUCTURE and ORGANIZATION.
- SEC. A. *Charter.*
  - (1) Nature and contents.
- SEC. B. *By-laws.*
  - (2) When adopted.
  - (3) By whom.
  - (4) Scope.
  - (5) Assent prescribed.
- SEC. C. *Membership.*
  - (6) How constituted.
  - (7) Evidence of—when required.
- SEC. D. *Promotion.*
  - (8) Promoters' powers and liabilities.
  - (9) Promoters' acts and engagements.
  - (10) Dummy corporators.

ART. II.—PURPOSES AND POWERS.
- SEC. A. *Purposes.*
  - (11) Provision.
- SEC. B. *Powers.*
  - (12) Provision.

ART. III.—LIMITATIONS AND RESTRICTIONS.
- SEC. A. *Corporate existence.*
  - (13) Duration.
  - (14) Dissolution—Rights affected by.
  - (15) Forfeiture.
- SEC. B. *Corporate indebtedness.*
  - (16) Provision.
- SEC. C. *Corporate stock.*
  - (17) Amount authorized.
  - (18) Amount with which may begin business.
  - (19) Classes.
  - (20) Consideration.
  - (21) Payment.
  - (22) Subscription.
  - (23) Installments.
  - (24) Dividend.
  - (25) Transfer.
  - (26) Corporate lien.
  - (27) Increase.
  - (28) Decrease.
  - (29) Voting.
  - (30) Held by corporation

ART. IV.—MANAGEMENT.
- SEC. A. *In whom vested.*
  - (31) Provision.
  - (32) Receivership.
- SEC. B. *Election of officers.*
  - (33) Provision.
- SEC. C. *Meetings.*
  - (34) Of directors.
  - (35) Of stockholders.

ART. V.—AMENDMENTS AND CHANGES IN CHARTER.
- SEC. A. *Changes authorized.*
  - (36) Provision.
  - (37) Assent prescribed.
  - (38) Certificate of amendment.

ART. VI.—RIGHTS AND LIABILITES.
SEC. A. *Officers and directors.*
(39) Rights.
(40) Duties.
(41) Limitations or prohibitions.
(42) Liabilities.
SEC. B. *Stockholders.*
(43) Rights.
(44) Limitations or prohibitions.
(45) Liabilities.
SEC. C. *Conditions of liability.*
(46) Provision.
SEC. D. *Employees.*
(47) Provision.
ART. VII.—CORPORATION AND STATE.
SEC. A. *General provisions.*
(48) Registered office—Agent.
(49) Books—Inspection.
(50) Receivership.
SEC. B. *Repeal or amendment of corporate law.*
(51) Provision.
SEC. C. *Constitutional provisions.*
(52) Creation by general or special act.
(53) State aid.
(54) Holdings of real estate.
(55) Rights and privileges.
(56) Limitations or restrictions.
(57) Trusts and monopolies.
(58) Taxation.
(59) Foreign corporations.
(60) Constitutional amendments.
(61) Full text.
SEC. D. *State records of corporations—Reports, and returns.*
(62) Tabulated sheet.
ART. VIII.—INTERCORPORATE RELATIONS.
SEC. A. *Merger or consolidation.*
(63) Provision.
SEC. B. *Holdings in other corporations.*
(64) Provision.
SEC. C. *Sale of franchise.*
(65) Provision.
(66) Minority rights.
SEC. D. *Reorganization, succession, or extension.*
(67) Provision.
ART. IX.—TRUSTS AND MONOPOLIES.
SEC. A. *Acts forbidden.*
(68) Provision.
(69) Enforcement of laws.
SEC. B. *Penalties.*
(70) Provision.
ART. X.—FOREIGN CORPORATIONS.
SEC. A. *Conditions of admission.*
(71) Filing charters.
(72) Filing statement.
(73) Appointment of attorney.
(74) Express powers or restrictions.
(75) Reports or returns.
SEC. B. *Taxation.*
(76) See Art. XI.
ART. XI.—PART I. GENERAL PROPERTY TAX.
SEC. A. *Real estate.*
(77) Nature.
(78) Application.
(79) Assessment.
(80) Purposes.

ART. XI.—PART I. GENERAL PROPERTY TAX—Continued.
SEC. B. *Personal property—Tangible and intangible.*
(81) Nature.
(82) Application.
(83) Assessment.
(84) Purposes.
SEC. C. *Personal property—Tangible only.*
(85) Nature.
(86) Application.
(87) Assessment.
(88) Purposes.
SEC. D. *Corporate property as represented by stock or shares.*
(89) Nature.
(90) Determination.
(91) Application.
(92) Collection.
(93) Distribution.
SEC. E. *Corporate bonds.*
(94) Provision.
SEC. F. *Exemptions.*
(95) Provision.
ART. XI.—PART II. LICENSE TAX.
SEC. A. *Charter fee.*
(96) Domestic.
(97) Foreign.
SEC. B. *Franchise tax.*
(98) Nature.
(99) Determination.
(100) Application.
(101) Collection.
(102) Distribution.
SEC. C. *Occupation tax.*
(103) Nature.
(104) Application.
(105) Purposes.
SEC. D. *Exemptions.*
(106) Provision.

CORPORATE RECORDS.

The important matters of corporate reports and returns received a special supplementary treatment. The several instruments, beginning with the charter or certificate of incorporation, which, under the laws of the State, go to make up what may be termed the State or official record of corporations, domestic or foreign, were set down in order, and, in connection with each document listed, notes in tabulated form were made showing when and where the same is filed or recorded, and its contents, as required by law. An example of such table follows:

State records of corporations.

—— (Name of State.)

Domestic.				Foreign.		
Document filed.	Where filed.	When filed.	Contents.	Where filed.	When filed.	Contents.
Charter, certificate, articles.	Secretary of state.	Time of incorporation.	Name; object; capital stock; number of shares; location of principal office; duration. (Statute cited.)	Secretary of state.	Before commencing business.	Copy of charter and statement of proportion of capital stock represented in State and name and address of agent; also to report changes in the same. (Statute cited.)

State records of corporations—Continued.

Domestic.				Foreign.		
Document filed.	Where filed.	When filed.	Contents.	Where filed.	When filed.	Contents.
Certificate of organization.	Secretary of state.	Before proceeding to do business.	Copy of statutory notice for meeting for organization; copy of subscription list; names of directors; terms of office. (Statute cited.)			
Certificate of organization.	Recorder of deeds in county where principal office is located.	Before proceeding to do business.	Copy of all papers hitherto filed with secretary of state. (Statute cited.)			
Statement of real estate.	Secretary of state and county recorder.	Annually before Dec. 21.	Description of all real estate acquired as security for debts, etc. (Statute cited.)			
Certificate of dissolution	Recorder of deeds and secretary of state.	With secretary of state within 3 months after agreeing to dissolve.	Copy of record of all proceedings; reciting adoption of resolution for dissolution; showing debts to have been paid and assets distributed. (Statute cited.)			
Certificate of amendment.	Secretary of state and recorder of deeds.	Before given effect.	Nature of change and certificate of two-thirds vote; change of name; place of business; object; increase or decrease of stock; increase or decrease of directors; consolidation. (Statute cited.)			
Annual report.	Secretary of state.	Annually in February.	Location of principal office in State: names and residences of officers and expiration of terms of office; whether pursuing active business and kind of business. (Statute cited.)			
Returns for taxation.	To assessor who returns same to the county clerk; the latter forwards it to State auditor.	Annually in April or May.	Name; location; amount of capital authorized; number of shares; amount of capital stock paid up; market value or actual value; indebtedness; assessed valuation of all tangible property. (Statute cited.)	Assessor ..	Annually in April or May.	Foreign corporations make return of tangible property in State in same manner as individuals. (Statute cited.)

CORPORATE TAXATION.

A similar treatment was given to the subject of taxation, and a similar table prepared for each State with regard to corporate taxes and tax records. This table is designed to show, in briefest form, the entire scheme of corporate taxation in force in the State, together with the nature, contents, and custody of all records or returns required for purposes of taxation. An example of such table follows:

Corporation taxes and tax records.

—— (Name of State.)

A. Subject taxed.	B. Purpose.	C. Where listed, returned, recorded.	D. Nature of record.	E. Corporations affected.	F. Remarks.
1. Real estate.	State and local.	Where located..	List filed with assessor.	Domestic, foreign.	Valuation every fourth year (1903), at one-fifth fair value.
2. Personalty.	.....do....	County, town, or district of principal place of business.	.....do.....	.....do.....	Tangible property only, except in making newspaper, coal-mining, and stock-breeding companies. These are assessed on tangible and intangible values, including franchises and tax on corporate excess. On one-fifth fair value.
3. Stock per se (taxed to the corporation).	.....do....	.....do.....	Detailed return to assessor, who forwards to county clerk, who forwards to State auditor.	Domestic..	On one-fifth of fair value of corporate excess. This tax does not apply to manufacturing, newspaper, coal-mining, and stock-breeding companies.
4. (Taxed to holders.) (Individual tax list here.)	.....do....	Where holder resides.	List filed with assessor.	Foreign ...	Foreign stock taxed under 2.
5. Bonds.....	.....do....	.....do	.....do.....	Domestic, foreign.	Taxed under 2.
6. Initial charter fee or license.	State	Secretary of state.	Application for charter.	.....do.....	*Domestic:* Graded on authorized stock. *Foreign:* Graded on proportion of stock represented by property and business in State.
7. Franchise.	.....	.....	.....	.....	None.
8. Occupation	.....	.....	.....	.....	None.

9. *General remarks:* The corporate excess return is made to assessor, who returns it to county clerk who sends it to State auditor, who lays it before State board of equalization, who thereupon values such corporate excess and certifies same to local tax officers. Telegraph companies are taxed on corporate excess, but return to State auditor.

Thus far compilations and tabulations of the character described have been made for the following States and Territories:

Arizona.
Arkansas.
Connecticut.
Delaware.
District of Columbia.
Georgia.
Idaho.
Illinois.
Kansas.
Kentucky.
Louisiana.
Maine.
Maryland.
Massachusetts.
Michigan.
Minnesota.
Mississippi.
Missouri.
Montana.
Nebraska.
Nevada.
New Jersey.
North Dakota.
North Carolina.
Oklahoma.
Rhode Island.
South Dakota.
Texas.
Utah.
Vermont.
Washington.
Wisconsin.

FIELD INVESTIGATIONS.

The foregoing outline describes the work of the Bureau in collecting, digesting, and tabulating the statute law relating to corporations.

But to understand fully existing corporate conditions, it was necessary also to consider the actual enforcement of this statute law, as illustrated by the practical operation of the corporation laws of given States.

Accordingly early in the year an investigation was begun, and has since been carried on, by special agents of the Bureau of Corporations at the several State and Territorial capitals. The specific objects of this investigation, which have been in a large measure achieved, were as follows:

First. The collection of every item of information concerning the more important corporations, joint-stock companies, and corporate combinations presumptively engaged in interstate or foreign commerce, chartered by a given State, and disclosed by the official records of the State.

Second. The ascertainment of the actual workings and practical efficiency of the State laws, so far as they are designed to secure an official record showing the character, organization, membership, control, capitalization, property, or operations of corporations within the State.

Third. To show the exact nature and extent of the information concerning corporations to be had from official sources.

Fourth. The general course of incorporation in the State, and all legislation affecting the same; also the general policy of the State toward corporations, domestic and foreign, as exemplified by its laws and the manner of their enforcement; and, further, such special or unusual laws, if any, regarding corporations as might be found in operation.

EXAMINATION OF RECORDS.

The official record of any given corporation will be found usually to consist of any one or more of the following documents, filed or recorded with the proper officer of the State:

1. Articles of association, certificate of incorporation, charter.
2. Certificate of change—
   - in the name;
   - statutory agent or attorney;
   - location of statutory office;
   - location of place of business.
3. Certificate of amendment—
   - relating to classes of stock or par value of shares;
   - increase or decrease of stock;
   - nature and amount of indebtedness;
   - number, powers, or duties of directors or officers;
   - objects, purposes, or business;
   - charter provisions or powers in other particulars.
4. Certificate of sale or transfer—
   - either voluntary, by agreement, or consent;
   - or involuntary, by foreclosure, forfeiture, or otherwise;
   - of franchises;
   - of property.
5. Certificate of merger or consolidation.

6. Certificates, miscellaneous—
   showing issue of corporate stock;
   payment of capital stock;
   creation or increase of indebtedness;
   appointment of statutory agent or attorney;
   location of principal office or place of business;
   acceptance of statutes and constitution;
   renewal or extension of charter rights;
   dissolution or surrender of charter.
7. Reports or returns, general—
   to secretary of state;
   other State officers.
8. Report or returns, for purposes of taxation—
   to State officers;
   county officers;
   municipal officers.

The agent was instructed to examine the laws of the State to which he was assigned, and note all provisions relating to the form, contents, and custody of such of the above-mentioned documents as might be required by that State, and then, with regard to the principal corporations chosen for investigation, to examine every paper and document, filed or recorded, concerning each corporation separately, taking up each paper in chronological order, noting the date of filing and making an abstract of its contents under appropriate heads. By this means all the information relating to each corporation examined disclosed by the official record of the State was collected, and in such form as to exhibit the force and effect of the State laws in actual practice.

SPECIFIC CORPORATIONS EXAMINED.

For every State visited a list of corporations organized therein was prepared and furnished to the agent for examination. This list was designed to include, so far as could be ascertained in advance, all the more important corporations organized in the State and engaged in interstate or foreign commerce, typical either of the State's industries or laws. Common carriers subject to the jurisdiction of the Interstate Commerce Commission were not embraced in the investigation. Public-service corporations, so called, trust companies, and banks were considered only incidentally, chiefly with regard to matters of taxation. The corporations thus selected, for all the States visited, whose official records have been examined and abstracted, number over 1,500, and include the larger part of the more important industrial and commercial corporations, joint-stock companies, and corporate combinations in the United States.

CORPORATE TAXATION.

That part of the investigation devoted to the matter of corporate taxation was made as thorough and exhaustive as the subject allowed. It was designed to secure the fullest possible information concerning each of the various systems of taxation in use in the several States and Territories, so far as corporations, both domestic and foreign, were affected thereby. It comprehended a careful compilation of the tax laws and a study of their actual operations in each State, as a whole, and in its various political and territorial divisions. The agents of the Bureau were instructed to obtain copies of reports or

returns of every kind required of corporations for the purposes of taxation, both State and local, and copies of tax lists, levies, appraisals, receipts, certifications, or other documents forming part of the machinery used in the laying and collection of taxes.

These directions have been carefully followed, and the Bureau is in possession of a complete set of such papers from every State visited. The amount of revenue derived from corporate taxation in the State or Territory, the sources of such revenue, and the amount received from each source were also ascertained. In every State or Territory visited the exact character and extent of the information to be had from any statements, reports, or returns of some of the more important of such corporations, particularly those required for the purposes of taxation, were copied or abstracted. In addition to this, a complete list of foreign corporations admitted to the State to do business was prepared, showing the name, capital stock, and home State of each corporation listed. These lists are valuable in this, that they will aid the Bureau in discovering what corporations are engaged in interstate commerce, and, therefore, within the jurisdiction of the Bureau of Corporations.

The material, therefore, collected from each State visited in the course of the investigation consists of—

First. Abstracts of the records of specific domestic corporations.

Second. Abstracts of the records of specific foreign corporations.

Third. List of foreign corporations admitted to the State to do business.

Fourth. Official forms of all corporate documents required or permitted to be filed.

Fifth. Official publications of every kind dealing with corporations.

Sixth. Transcripts of all records or returns used in connection with corporate taxation, taken from typical originals.

Seventh. A special report made by the agent, covering every feature of the work in detail, and containing, among other things, an account of the general course of incorporation in the State, an account of the practical effect and operation of the various statutes in force, and an account of the system of taxation, general and local, in its actual operation.

STATES VISITED.

Beginning with those States whose laws are most frequently resorted to by promoters of corporate enterprises, the following States and Territories have been visited in the course of the investigation above described.

Arizona.	Kentucky.	Ohio.
California.	Maine.	Pennsylvania.
Colorado.	Massachusetts.	Rhode Island.
Connecticut.	Michigan.	South Dakota.
Delaware.	Minnesota.	Texas.
Illinois.	Missouri.	West Virginia.
Indiana.	Montana.	Wisconsin.
Iowa.	New Jersey.	
Kansas.	New York.	

II. CONSIDERATION OF CONSTITUTIONAL POWERS AND RESTRICTIONS.

With this end in view the attorneys of the Bureau have made exhaustive examination and research of judicial decisions bearing upon such constitutional questions, and have prepared a large number of

memoranda thereon. The more important of the subjects thus treated are as follows:

1. POWERS OF THE BUREAU.

Province and duty of the Bureau of Corporations and the power and authority of the Commissioner.

Procedure by the Commissioner of Corporations to compel attendance of witnesses and the production of documentary evidence.

Analysis of decisions of the United States Supreme Court in cases involving provisions of section 12 of the interstate commerce act: Interstate Commerce Commission *v.* Brimson (154 U. S., 447); Brown *v.* Walker (161 U. S., 591), and Interstate Commerce Commission *v.* Baird (194 U. S., 25), all relative to the power to compel attendance of witnesses.

Examination and annotation of the interstate commerce act, section 12, and an act in relation to testimony, etc., relative to the power therein given to compel attendance of witnesses.

2. INTERSTATE COMMERCE.

Judicial definitions of interstate commerce; examination of the question, What is interstate commerce, as determined by the courts?

Memorandum showing corporations subject to provisions of act creating Bureau of Corporations.

Digest of cases reported in Interstate Commerce Commission reports on points relating to the work of the Bureau.

Cases showing the relation between commerce and production or manufacture.

Power of Congress as to foreign commerce.

Prohibitions and restrictions of commerce, as exemplified by Federal statutes applying and decisions upholding these powers.

Statutes actually prohibiting commerce.

3. UNITED STATES CORPORATIONS.

The power of Congress to create corporations.

The power of Congress to create corporations, and the right of the States to tax national corporations.

The power of Congress to create corporations engaged in foreign and interstate commerce and to regulate all corporations so engaged.

Rights of national corporations in the States: Manufacturing corporations.

Digest of national-bank cases in United States and Federal reports (omitting tax cases).

Power of Congress to grant to its corporations the right of eminent domain.

Digest of cases of Federal taxation and State-bank issues.

National regulation of interstate commerce, based upon a license system.

4. STATE POWERS IN RELATION TO INTERSTATE COMMERCE AND UNITED STATES CORPORATIONS.

State taxation and regulation of corporations: National banks, railroad companies, and telegraph companies.

State control of interstate commerce by stipulations in charters.

State regulation of foreign corporations.

Maximum limits of the police powers of the States in connection with interstate commerce.

Abstract of United States Supreme Court decisions involving question of State taxation of corporations engaged in foreign and interstate commerce, with digest.

State's right of taxation of corporations engaged in interstate and foreign commerce; how affected by Federal organization, and control of such corporations.

State taxation of franchises of corporations engaged in interstate commerce.

State control of interstate commerce and corporations engaged therein.

Delegation to the several States of power to regulate commerce.

5. FOREIGN CORPORATION LAW.

Origin, organization, powers, and duties of Board of Trade of England.

Management and control of corporations and organizations: England and the United States.

English companies' acts: Topical analysis, with schedules and tables; orders and rules for winding up companies.

DIGEST OF "ANTITRUST" LEGISLATION.

The Bureau has considered carefully and at length the various Federal and State statutes dealing with illegal industrial combinations, the so-called "antitrust" laws, and has prepared for publication a volume upon this subject.

Summarized briefly, this publication will contain the following subject-matter:

A general survey of Federal and State "antitrust" laws, with especial reference to their historical growth and operation.

Tables of "antitrust" laws, showing in tabular and condensed form, so as to be readily available and easily comparable, the provisions of such laws, including the sectional distribution of State laws; Federal decisions under the Sherman antitrust act, and cases arising in Federal and State courts under State "antitrust" laws.

A detailed description of Federal and State "antitrust" legislation by States, with a discussion of their operation and effect.

A compilation in full of Federal and State "antitrust" laws.

The Sherman antitrust act annotated and discussed.

Digest of cases arising under the Sherman antitrust act.

A digest and discussion of cases involving common-law principles as to combinations in restraint of trade.

Federal and State laws against conspiracy.

A bibliography of the literature upon this entire subject.

ECONOMIC INVESTIGATIONS.

Prior to the beginning, in March, 1904, of the investigation of the meat-packing industry, the Commissioner did not undertake to secure information regarding corporations and industrial combinations by addressing inquiries directly to them. It was considered necessary to lay a foundation on which such direct investigations could be intelligently and effectively conducted. With this object the Bureau has aimed to compile from sources already existing all available information regarding certain leading combinations, and to analyze carefully the material so gathered. In this way it has been possible to form preliminary judgments regarding the economic and financial practices and effects of the combinations investigated, and to determine the lines of further original inquiry, both with respect to the combinations studied in this special manner and, more broadly, with respect to combinations in general.

Digests of information of the character described have already been prepared, or are in course of preparation, concerning several corporations and combinations. The general scope of these digests is shown in the condensed outline below. This outline is followed generally in each investigation, with such modifications as the special nature of the material may dictate.

OUTLINE FOR DIGESTS OF INFORMATION.

Organization:

Formal description of present corporation or combination—State of incorporation, charter, form of organization, nature of business, officers, and directors.

History of organization, constituent or antecedent corporations, etc.

Capitalization:

Formal statement of amount of securities, dividends, and market value of shares.

History of promotion and capitalization—basis of issue of securities, profits of promoters, etc.

Capitalization in relation to tangible value and earning capacity of plants.

Financial reports of the corporation.

Control of plants and production—competition:
History and general description of concerns and plants controlled.
Control of output. Character and effectiveness of competition.
Restriction of output.
Competitive methods—local price cutting, railroad discriminations, etc.
Prices and cost of production:
Prices—statistics and analysis; comparison with raw material and by-products; effect of combinations and of other influences.
Cost of production and profits.
Economies effected by combination.
Tariff, exports and imports:
Description of present and earlier duties.
Imports and exports.
Production, costs, and productive conditions in foreign countries.
Tariff policy of foreign countries.
Comparative foreign and domestic prices.
Export prices of American products.
Labor conditions.

On the basis of the general study of available information concerning their business, preliminary outlines of inquiries to be addressed directly to the companies have been prepared.

In addition to these more extended investigations many briefer reports and memoranda have been prepared regarding individual corporations, or regarding methods of investigation, sources of information, and the like.

INVESTIGATION OF BEEF INDUSTRY.

On March 18, 1904, a resolution was passed by the House of Representatives, directing the Secretary of Commerce and Labor to investigate the alleged beef combination. The Secretary of Commerce and Labor directed the Bureau of Corporations to conduct the inquiry called for in the resolution. An extended special report on this subject will shortly be submitted.

Special agents, with clerical assistants, have been constantly in the field since April. They have secured comprehensive statistics, chiefly relating to the prices of cattle and of beef, from the records of all the companies in the alleged combination, and also from independent packers, commission men, retail dealers, and other sources. They have interviewed a large number of independent packers, commission men, cattle raisers, meat dealers, and other persons, with a view to ascertaining facts and opinions relating to the existence of a combination, the movements of prices, the causes of such movements, and the general conditions of the cattle and beef industry.

THE INSURANCE WORK OF THE YEAR.

In the last paragraph of section 6 of the act there is included a clause in which a special direction is contained covering the question of insurance. A careful compilation of the insurance laws of the various States is being made, based upon a uniform outline. For this purpose the following outline was prepared. Under it the laws relating to insurance in each State are being compiled, and a given topic in insurance can be readily compared for every State by reason of the arrangement of the plan under which each is compiled.

General outline adapted to all of the States, covering the important provisions relating to insurance legislation.

ARTICLE I.

SUPERVISION.

Index No.

I. In whom reposed.
1 (a) Official title.
2 (b) Qualifications.
3 (c) How selected.
4 (d) Term of office.
5 (e) Compensation.
6 (f) Bond.
7 (g) Seal of office.
8 (h) Office force and duties.

II. Expense of.
9 (a) How defrayed.

III. Powers and duties of commissioner.
(a) Certificate of authority.
10 (1) To agents.
11 (2) To companies.
12 (3) Revocation of.
(b) Examination of companies.
13 (1) Scope of.
14 (2) When made,
15 (3) Publication of.
16 (4) Expense of.
17 (5) Penalty for refusal to submit to.
18 (c) Fees, taxes, and charges.
(d) Statements of companies, blank forms for.
19 (1) To prescribe.
20 (2) To furnish.
(e) Report of commissioner.
21 (1) To whom and when made.
22 (2) Contents of.
23 (f) Proceedings against companies.

ARTICLE II.

PROVISIONS APPLICABLE TO ALL COMPANIES.

24 I. Advertisements, requirements as to.
II. Agent.
25 (a) Definition of.
26 (b) Embezzlement by.
27 (c) Personal liability of.
28 (d) Resident agent law.
III. Capital.
29 (a) Amount of.
30 (b) Investment of.
31 (c) Impairment of.
32 IV. Contract of insurance defined.
33 V. Corporate name and location.
VI. Deposits.
34 (a) Amount of.
35 (b) Investment of.
36 (c) With whom made.
37 (d) Withdrawal of.
38 VII. Insurable interest.
39 VIII. Limit of single risk.
40 IX. Misrepresentation and fraud.
41 X. Real property, restrictions as to holding.
42 XI. Reinsurance, requirements as to.
43 XII. Emergency, reinsurance reserve, or guaranty fund, and the valuation of policies.
44 XIII. Restrictions as to engaging in any business other than insurance.

Index No.

45 XIV. Service of process.
XV. Statements and reports by companies.
46 (a) With whom and when filed.
47 (b) Contents of.
48 (c) Publication of.
49 XVI. Suits, limitation of time of instituting.
50 XVII. Taxation.
51 XVIII. General penalties.

ARTICLE III.

PROVISIONS APPLICABLE TO FOREIGN COMPANIES.

I. Admission of, requirements as to.
52 (a) Capital.
53 (b) Deposits.
54 (c) Documents to be filed with the commissioner.
55 (d) Appointment of attorney.
56 (e) Restriction as to removal of suits.
57 (f) Other requirements.

ARTICLE IV.

PROVISIONS APPLICABLE TO DOMESTIC COMPANIES.

58 I. Organization and incorporation.
59 II. Subject to general pertinent incorporation law.
60 III. Dividends, or distribution of surplus.
61 IV. Consolidation of.
62 V. Personal liabilities of members, stockholders, directors, trustees, or officers.
63 VI. Insolvency and receiverships.

ARTICLE V.

PROVISIONS APPLICABLE TO FIRE AND MARINE INSURANCE COMPANIES.

64 I. Definitions of, or limitations as to business.
65 II. Anticoinsurance.
66 III. Anticompact or antitrust.
IV. Cancellation of policy.
67 (a) Prohibited without notice.
68 (b) Premiums to be returned.
69 V. Duration of policy, limitation as to.
70 VI. Fire, notification in case of.
71 VII. Insurance in unauthorized companies.
72 VIII. Policy must designate the kind of company.
73 IX. Policy to contain conditions in full.
74 X. Standard policy.
75 XI. Valued policy law.

ARTICLE V (a).

76 PROVISIONS APPLICABLE TO LLOYD'S COMPANIES.

ARTICLE VI.

PROVISIONS APPLICABLE TO LIFE, HEALTH, AND ACCIDENT INSURANCE COMPANIES.

77 I. Definitions of, or limitations as to business.
78 II. Application, copy of, to be furnished applicants.
79 III. Beneficiary's exemption.
80 IV. Change of beneficiary.
V. Discriminations prohibited.
81 (a) Antirebate.
82 (b) Against negroes.
83 (c) Other discriminations.
84 VI. Forfeiture of policies without notice.
85 VII. Incontestability of policies.

Index No.

86 VIII. Medical examination, requirements as to.
87 IX. Minimum premium to be charged.
88 X. Registered policies and annuity bonds, requirements as to.
89 XI. Surrender value of lapsed or forfeited policies.

ARTICLE VI (a).

PROVISIONS APPLICABLE TO ASSESSMENT LIFE COMPANIES.

90 I. Definition of, or limitations as to business.
91 II. Designation of principal office.
92 III. Exemption of certain societies.
93 IV. Age limit.
94 V. Notice of assessment.
95 VI. Policy to state maximum amount.

ARTICLE VI (b).

PROVISIONS APPLICABLE TO FRATERNAL BENEFICIARY SOCIETIES.

96 I. Definition of, or limitations as to business.
97 II. Age limit.
98 III. Constitution and by-laws.
IV. Exemptions.
99 (a) From general insurance law.
100 (b) Of certain societies.
101 V. Payments of benefits, endowments, etc., regulation as to.

ARTICLE VII.

SPECIAL LAWS.

102 I. Anticoinsurance.
103 II. Anticompact, or antitrust.
104 III. Antirebate.
105 IV. Fire marshal.
106 V. Reciprocal or retaliatory.
107 VI. Resident agents.
108 VII. Standard policy.
109 VIII. Valued policy.

ARTICLE VIII.

SCHEDULES.

110 I. Schedule showing the amount of capital, deposits, and the date on which the annual reports are required.
111 II. Schedule showing the amount of fees, taxes, and charges required.

Under this plan compilations have been made of the laws of the following States:

Connecticut.	Massachusetts.	New York.
District of Columbia.	Michigan.	Ohio.
Florida.	New Hampshire.	Oklahoma.
Kansas.		

Letters in the following form were sent to the commissioners of insurance or other insurance officials of the several States:

Under the provisions of the act of Congress establishing the Department of Commerce and Labor—a copy of which is herewith inclosed—it is the duty of the Bureau of Corporations to gather, compile, publish, and supply useful information concerning certain corporations, specific mention being made of corporations engaged in insurance.

In pursuance of these requirements it is desired to obtain certain information from the constituted authorities of the several States and Territories, and you are requested to supply the following:

(1) In what official board or commission is reposed the supervision and regulation of insurance in the State of———?

(2) What are the powers and duties of said official or body?

(3) What distinctions are made between the several kinds of insurance in regard to the duties and obligations of the companies writing the same and their supervision and regulation by the State?

(4) What distinctions are made between foreign and domestic companies respecting fees, taxes, and regulations?

(5) Copies of existing statutory enactments relating to the organization, conduct, management and requirements of insurance corporations and the supervision and regulation of the same by the State.

(6) Publications of the State containing the reports or returns made by or regarding such corporations, and copies of the blank forms used; or, if there are no such publications; what is required of such corporations respecting reports or returns.

(7) A list of insurance companies, foreign and domestic, within the State, giving the name, location, and character of each, and the officer to whom correspondence should be addressed.

(8) Information is requested and reference thereto is desired if there are any of the following insurance laws in force in the State of ———: Valued policy laws, anti-compact or anti-trust laws, standard policy laws, resident agent laws, retaliatory or reciprocal laws.

It is further desired to obtain for the Bureau of Corporations all the information respecting the subject of insurance as dealt with in the State of ——— that may be in the possession of the various State officers and which may be properly afforded. Attention is invited especially to section 6 of the inclosed act, which authorizes the Bureau to obtain the information asked.

Inclosed you will find frank envelopes for replies, andfranks under which can be sent such printed matter herein requested as you may have.

This met with general response and placed the Bureau, so far as the insurance world is concerned, in an attitude that met the approval of those interested in this great business. These replies contain items of information of great value.

With a view of making an investigation of the effects of the valued policy law agents of the Bureau visited several States which have such law. The individuals interviewed included not only the officials of insurance companies, but also State insurance commissioners, officers of boards of underwriters and of associations of business men, bankers, insurance agents, etc. Their main object was to ascertain, if possible, the practical effects of the valued policy law as in force in the several States. This, however, was not the only object intended to be achieved.

This investigation served to bring this Bureau into closer touch with the prominent insurance officials and the interests that they represent. The interviews served the purpose of acquainting these officials with the general purposes for which the Bureau was organized, and its jurisdiction in gathering information relating to insurance. A great deal of information was secured, having both a positive and a negative value. It acquainted the Bureau with the methods of operation of certain great companies, their systems of keeping books, the character of the information possessed by them, and those things that they lack.

This Bureau has also made an investigation in other branches of the Government to ascertain what publications, statistical or otherwise, have already been prepared that may be useful for its work. Reports are frequently received from our foreign consuls that contain items of interest on insurance matters, and arrangements have been made to have such reports brought to the attention of the Bureau.

A large number of publications have been received from insurance officials of the various States bearing upon insurance. A number of periodicals issued in the interest of this subject have been carefully read, clipped, and indexed and important compilations and memoranda have been prepared and submitted on this subject.

COMPLAINTS.

As a natural result of the establishment of the Bureau, a number of complaints have been received by it from private persons: (a) Giving information on corporate matters; (b) asking legal or financial advice; (c) asking assistance against restraint of trade, exorbitant prices, or unfair competition; (d) asking remedial action by the Bureau in matters relating to internal management of specific corporations, e. g., to compel the issuance of reports or furnishing of information to the complainant on the business of such corporations. A classification of these complaints is as follows:

Subject-matter.	Number of complaints.
Stockholders' rights	24
Restraint of trade	17
Unfair competition	5
Exorbitant prices	2
Insurance	3
General information only	1
Matters wholly foreign to Bureau's work	5

In dealing with such complaints the Bureau has acted upon the theory that it could offer no remedial action in specific cases, could not enforce publicity for merely private ends, could take no steps toward the enforcement of penal law (e. g., the antitrust law) further than to refer the complainant in appropriate cases to the Department of Justice, and could give no legal or financial advice.

Believing, however, that such complaints have a distinct value to the Bureau, both in furnishing specific information as to given corporations, and also in showing generally the weak points of the present commercial system, it has been the policy of the Bureau to indicate to the complainants the desire of the Bureau for information.

GENERAL POLICY.

The study of the law and industrial conditions, as above outlined, resulted in the adoption of the following general policy regarding the Bureau and the conduct of its work:

As the Commissioner is not charged with the enforcement of any law nor with the prosecution of persons or corporations alleged to be or found to be violating any law, the work of the Bureau is primarily an inquiry into the industrial and legal methods used by the agencies engaged in interstate and foreign commerce, and the purpose of such inquiry to afford accurate knowledge of industrial conditions upon which there may be based intelligent legislative action.

In the investigation of special corporations the Commissioner will necessarily acquire knowledge of business facts the publication of which would be an infringement of private rights. The method of

reporting and making public the results of these investigations affords a means, through the President, for protecting private rights. In this particular the method of procedure is similar to the action and reports of the Comptroller of the Currency regarding national banks. There will thus be presented to Congress all relevant facts except such as would afford to any corporation information which would injure the legitimate business of a competitor and destroy the incentive for individual superiority and thrift.

While the purpose of inquiries and special investigations is not to discover violations of Federal statutes, yet, if facts are found showing such violation, they will be reported as other facts to the President for such consideration and action as may be appropriate or necessary.

Under present industrial conditions, secrecy and dishonesty in promotion, overcapitalization, unfair discrimination by means of transportation and other rebates, unfair and predatory competition, secrecy of corporate administration, and misleading or dishonest financial statements are generally recognized as the principal evils. It is admitted that the chief difficulty in the way of providing ample remedies has been the conflict between Federal and State authority as to jurisdiction over many of the acts of great industrial agencies, and the uncertainty of the extent of regulation exercised or to be exercised by the Federal Goverment over agencies engaged in both State and interstate commerce.

The immediate work is, hence, not to prove the existence of such evils and difficulties, but to find possible remedies for them. The remedies must not be simply to destroy existing bad conditions—mere destruction affords only temporary relief—but they must provide something better to take the place of what is changed. The imposition of severe penalties will not end industrial evils. We must find and remove their cause, leaving only the extreme or exceptional cases to be dealt with by criminal statutes.

The Government should secure means for fair business competition, freedom from unjust discrimination, such publicity of corporate organization and management as will disclose real financial worth and methods, should provide a jurisdiction broad enough to meet existing conditions, and then should fully protect the person or corporation obeying the law and promptly punish the violator of the law.

The facts upon which remedial legislation must be based are in the possession of persons and corporations engaged in business—some have been given to the public, others have been incidentally furnished through judicial and legislative proceedings, and others have been held as business secrets. As to the first two classes the Bureau has been systematically collecting them from all available sources; as to the last class special inquiries have been made or are being made from particular corporations. In dealing with this class of facts it is recognized that there is a fair ground for discussion as to whether certain questions are infringements upon private rights; hence the following method of procedure has been adopted:

Inquiry is made directly from the persons or corporations under investigation; if it be determined that the Government is entitled to the information, it must be given voluntarily or the compulsory process of the statute will be invoked; if the Government is not entitled to the information, then no detective method will be used to discover it.

There has been no attempt to define the scope of the inquiry to be made, nor to limit it to certain classes of facts. All facts which will give information regarding interstate and foreign commerce, or will assist Congress in regulating such commerce, are subjects of legitimate inquiry.

One line of inquiry concerning which question has been raised is as to the cost of production of articles used in or subjects of interstate and foreign commerce. So far it has not been necessary to test this question in court, but it is believed that aside from any other reason the question is proper because of the power of Congress to impose tariff duties in the regulation of commerce. The ideal tariff duty is the difference between the cost of production at home and abroad; hence Congress has the right to know what is the cost of production. Furthermore, it is claimed that the tariff gives an unfair advantage to corporations and persons engaged in the manufacture and distribution of protected articles which are the subjects of interstate and foreign commerce. Congress has the right to know whether this be true or not, and this Bureau affords a most appropriate and efficient means for obtaining such information.

In brief, the policy of the Bureau in the accomplishment of the purposes of its creation is to cooperate with, not antagonize, the business world; the immediate object of its inquiries is the suggestion of constructive legislation, not the institution of criminal prosecutions. It purposes, through exhaustive investigations of law and fact, to secure conservative action, and to avoid ill-considered attack upon corporations charged with unfair or dishonest practices. Legitimate business—law-respecting persons and corporations—have nothing to fear from the proposed exercise of this great governmental power of inquiry.

The above outlined general statement of the objects, powers, and work of the Bureau leads to the consideration of the legal conditions which constitute the problems before the Bureau.

LAWS AFFECTING COMMERCIAL CONDITIONS.

A number of classes of statutes are now applicable to commercial conditions. These classes are considered in detail as follows:

(*a*) Corporation law.
(*b*) Anti-trust laws.
(*c*) Unfair competition laws.
(*d*) Tax laws.
(*e*) General laws, including police regulations, factory legislation, and rate-fixing commissions.

CORPORATION LAW.

The greater portion of business is transacted under the corporate form. It is obvious that the corporate form is the result of economic necessity, and that its present predominance will inevitably tend to increase.

Historical development of corporation law.—The need of essential reform in corporation law is admitted. Compared with other branches of law, corporation law is relatively new and untried—an experiment only just begun—while general business laws have passed through a long process of evolution. Its development has been abnormally rapid

in some directions by imperative economic forces. In the haste of its creation it has been molded disproportionately by special interests, has grown extensively in special directions, and has not taken the form necessary to adapt it permanently for the proper protection of all the interests involved.

A study of the present body of corporation law shows the impress of the forces that have shaped it. First in prominence is the force represented by the masters of industry, the interests that are peculiarly connected with production, transportation, and exchange. Second, the purely financial interests as distinguished from production, in which class the organizer or promoter, so called, is conspicuous. Third, the creditor class, whose interest is in the security for loans or credit; and in somewhat similar position those stockholders who under present forms of combination, by preference or other device, have taken stock in exchange for property, and, in effect, consider themselves creditors rather than responsible owners of corporate stock. Fourth, the labor interests, and finally, the State as a taxing body and, to a very limited extent, as a guardian of public welfare. The interests of the consumer have so far had very little effect upon legislation of this sort.

In brief, the evolution of corporation law, as regards the properly balanced interests of the entire community, has been accidental rather than designed.

Fundamental theory of corporation law.—The law of corporations is based upon the establishment of a *form* of doing business; *i. e.*, the creation of an artificial entity, the conferring upon it of such powers as are necessary to give it proper business efficiency, while placing upon it such restrictions as will properly safeguard the interests of those peculiarly concerned in the corporation, as well as the public.

Peculiar characteristics resulting in peculiar evils.—A study of corporation law makes it clear that many of the existing evils of commercial conditions are directly due to certain features of corporation law peculiarly characteristic of the corporate form. The peculiarities may be summarized as follows:

(*a*) Legal immortality, or permanence of succession.
(*b*) Impersonal nature.
(*c*) Divisibility of interest by creation of stock.
(*d*) Limited liability.
(*e*) Artificial character; existence by act of the State.

Of these features the divisibility of interest and limited liability have far-reaching effects on commercial conditions, as follows:

Divisibility of interest: This is of primary importance. It results in majority rule; allows the abuse of minority interests; greatly reduces, and often eliminates, the sense of personal responsibility on the part of the managers; allows the exploiting of one company for the benefit of another; permits divergent and clashing interests within the company, by the creation of special classes of stock; in connection with the limitation of liability it has brought into existence the small investor, he who has no accurate source of information, and whose necessary ignorance of business affairs is a standing temptation to "insiders;" permits the creation of stock and its use as a sort of currency; taken in connection also with the transferability of stock interests, it allows speculative manipulation; creates great practical confusion in the incidence of taxation.

Limited liability: This renders possible very large enterprises;

encourages over-capitalization; taken in connection with divisibility of interest, reduces greatly, and often destroys, the interest of the managers in the success of the business and their feeling of personal responsibility therefor, and affects greatly the moral factor in business management; allows extreme concentration of commercial power; reduces the security of creditors.

Ground for governmental regulation.—Governmental action having created the artificial corporate form with the above outlined peculiar characteristics, it is logical and necessary that governmental regulation of corporations should be much more stringent and detailed than the regulation of individual businesses. The concentration of business that has resulted from the use of the corporate form has produced entities that are almost equal in power to the state itself; that can meet the state on equal terms and influence it accordingly. By their size and legal permanence and their peculiar privileges they have crossed the line that divides private from public interests and their operations affect the public in much the same manner as the operations of government.

The great reduction of personal responsibility that has followed the corporate form, the divisibility of stock interests, and the separation of the laborer, stockholder, and creditor from contact with and control of the instruments of industry, has left a very large gap to be filled by government control, and has left more or less unprotected various important interests which must have the supervision and intervention of the state for the following purposes:

(a) To protect property rights in corporations held by those now unable to protect themselves by reason of lack of information or power.

(b) To protect those dealing with corporations as employees, creditors, or consumers.

(c) To protect the public from the abuse of great economic power coupled with little personal responsibility.

The economic powers of the Government and of public officers are checked by a corresponding publicity and responsibility to the voters, while the economic powers of great corporations, although often governmental in their size and scope, have no such publicity or responsibility.

(d) To protect the Government itself from the pressure of great commercial and financial powers directed upon it for the attainment of purely private ends.

THE PRESENT SYSTEM OF INCORPORATION BY STATES.

Investigation of the State corporation laws has not been completed, but enough facts have been gathered to make possible a number of general conclusions as to this system. Substantially all the corporations of to-day are the creatures of the different States. This is so to such an extent that for all practical purposes it is proper to say that the corporate business of the country is carried on under the "State system."

The present situation of corporation law may be summed up roughly by saying that its diversity is such that in operation it amounts to anarchy. The States which by reason of their commercial activity are important differ very widely in the principles upon which their corporation legislation is based.

This situation, taken in connection with the principle of the comity of States, has had a singular and far-reaching effect on commercial conditions. This principle of comity has had the practical result of giving to the organizers of a proposed corporation the choice of all the corporation laws of the various States. Many such organizers represent one of the peculiar interests above referred to, namely, that of the financial or speculative type. Each State naturally desires, chiefly for the purpose of revenue, to attract incorporation to itself by lax corporation laws. The ground has been cut from under the feet of objectors to such laws by the unanswerable proposition that if incorporators or organizers were not accommodated in the given State they could incorporate in a more complacent State and easily come back to the first State to do business. The logical result has been an inevitable tendency of State legislation toward the lowest level of lax regulation and of extreme favor toward this special class of incorporators, regardless of the interests of the other classes properly concerned.

A further peculiar phenomenon also arises—that, as to the vast majority of business done, the corporation doing it is a *foreign* corporation. The ordinary large corporation does only a small proportion of its entire business in the State which chartered it. All the rest of its business it does as a foreign corporation, and under the peculiar conditions applicable thereto.

This is largely the natural result of subjecting concerns whose area of operations covers many States to the legal conditions imposed by *one* out of those many States. In other words, matters which rightly affect the *whole* are, to a certain extent, directed and shaped by a *small part* of the community.

The net result of this State system is thoroughly vicious. In the bidding of State against State for corporation revenue, only one of the numerous interests involved in corporate business is regarded. The proper relation of the corporation to the State is almost wholly lost sight of in "broad" corporation laws. Corporations themselves are hampered by the "foreign corporation" relation which they must hold toward most of their business. Constant change and instability of law is inevitable, and finally, in the struggle for preferences, privileges, and discriminations, the two contestants, to wit, the corporation which seeks and the State which should withhold, are unequally balanced, and upon the wisdom and patriotism of a single State is placed the pressure of forces that are national in their power.

ANTITRUST LAWS.

A careful compilation and tabular summary has been made of all the Federal and State "antitrust" legislation. The word "antitrust" in this connection has of necessity been loosely used. This legislation can be divided into two classes of subject-matter, the one which is aimed at the prohibition of monopoly and restraint of trade, and which is more properly "antitrust," and the other, which is aimed at improper rebates, discrimination, and unfair competition, and which has no necessary connection with combinations.

The theory of the first class of "antitrust" legislation is the prevention of monopoly and the maintenance of a condition of competition.

Taken as a whole, this legislation (with a few marked exceptions) has been singularly futile. It seems likely that the reason for its failure is due to two facts, (a) that it is an attempt to stop the operation of strictly economic law by statutory enactment, and (b) the attempt to maintain a state of competition by prohibiting all combination, reasonable or unreasonable, is wrong in principle.

Apparently the only exceptions to this conclusion lie in the case of public-service corporations which are, by their nature, largely agents of the State, and exercise powers not granted to the ordinary corporation or individual.

UNFAIR-COMPETITION LAWS.

The second class of legislation, usually a part of "antitrust" laws, but having no necessary connection with combinations or trusts, is that which prohibits rebates, discriminations, and unfair competition. This legislation is based on an entirely different principle and is fundamentally correct. It is aimed not at the restraint of combination as such, or the maintenance of competition, but at regulating the *methods* of competition. It recognizes the irresistible tendency toward combination, and its purposes are to make certain that combination is reached only through just, fair, and proper means. Recognizing that the tendency to combine can not be stopped by statute, its object is to see that this process shall be attended with as little injustice as may be, and to this extent is correct in theory.

TAX LAWS.

Other general laws affecting corporate business are State tax laws, which are at present in a state of great confusion, based upon wrong or conflicting principles, resulting frequently either in double taxation or in total escape from taxation, and being often so obscure and complex as to defy interpretation, even by the State officials charged with their execution.

MISCELLANEOUS LAWS.

A further class includes the general and miscellaneous legislation, instances of which are laws establishing rate-fixing commissions, "factory acts," general forms of business, etc., and a large class of legislation that is based upon the police power.

COMPARATIVE EFFICIENCY OF VARIOUS CLASSES OF STATUTES.

While this study of the laws affecting corporations makes it apparent that many of the evils of the present situation have been created by statute and can be remedied by statute, yet it is necessary to recognize frankly the limits within which statute law can effect economic conditions, and to admit that there is a very large area of business within which legislation is not only inefficient but productive of positive evil, however well intended. A review of the history of legislation on economic questions seems to show two classes of such statutes, the one effective and the other the reverse. Examples of the first are "factory acts," compulsory education, forms of business, regula-

tion of corporate organization and management, safety appliances, prevention of fraud, etc., all of which have worked well. Examples of the other class are usury laws, absolute regulation of prices, anti-trust laws as heretofore explained, and antispeculation laws, all of which have been essentially unenforceable (with some marked exceptions) and have, in the case of the usury laws and regulation of prices, actually accomplished results the reverse of those intended.

In dealing with the remedial force of statutes, it must be remembered that the law is merely, in the final analysis, a crystallization of public opinion, and a statute which too far precedes or diverges from public opinion will be ineffective. The use of the two forces must therefore proceed together.

Furthermore, it is necessary to consider the varying degrees of efficiency of given laws as dependent upon their form. Certain statutes are easily enforced—are practically self-enforcing—and owe their efficiency merely to their form, while others directed to the same end are unenforceable. The most important reason for this difference probably lies in the "sanction" of the given act—i. e., whether the impelling force thereof is a criminal penalty or a private right of the individual. It may be stated conclusively, as a general rule, that that statute which relies for its enforcement upon the interest of private individuals will be much more effective than that which is based purely upon a criminal penalty. This distinction has a very important bearing upon the form of corporation law.

CONSTITUTIONAL POWERS OF CONGRESS OVER CORPORATE BUSINESS.

The Federal powers which are available to meet the conditions above outlined and to carry out the purposes above indicated are based almost wholly on the "Commerce clause" of the Constitution, as follows:

Article 1, section 8. "To regulate commerce with foreign nations, and among the several States, and with the Indian tribes."

Subordinate powers which may be sometimes available for the same purposes are the power to establish post-offices and post-roads, to lay and collect taxes, etc., and to coin money and regulate the value thereof.

It may be considered as established that under these powers Congress may—

(1) Create corporations as a means of regulating interstate commerce.

(2) Give to such corporations the power to engage in interstate or foreign commerce.

(3) Prohibit any other corporations or individuals from engaging in the same.

(4) As a condition precedent to the grant of such corporate powers, lay any restrictions it chooses upon the organization, conduct, or management of such corporation.

(5) Tax interstate commerce at will and the instrumentalities and corporations engaged therein.

(6) Provide regulations for the carrying on of interstate commerce generally and in such local affairs as are now left to the States in the "silence of Congress" under the principle established in Cooley *v.* Port Wardens (12 How., 299), and in the carrying out of such powers it may use any or all means "which are appropriate, which are plainly

adapted to that end, which are not prohibited but consistent with the letter and spirit of the Constitution."

Furthermore, the individual States are restrained by the Federal Constitution from laying any burdens upon interstate or foreign commerce or from regulating or controlling the same, except in the case of local matters and in the "silence of Congress" aforesaid. This does not exclude the rights of the States to exercise their ordinary police power as applied to the persons engaged in, or the instrumentalities used for, interstate commerce so long as the exercise of such powers does not constitute a direct interference with that commerce itself, but is applied only indirectly, and is appropriate for the general purposes of local police regulation.

As a corollary from the above, the States can lay no tax upon interstate commerce as such, or upon the subject-matter thereof as such, nor can any State discriminate against interstate commerce as such, nor can it lay any burdens upon the exercise of a constitutional Federal franchise or impose taxes thereon, except by direct permission of Congress.

Briefly, as to interstate and foreign commerce, the United States is one country, one legislative area, and when Federal regulation of such commerce enters any given State for the purpose of operating on such commerce it enters it not as foreign territory, but as a part of its own jurisdiction.

REMEDIAL LEGISLATION SUGGESTED BY THE ABOVE-DESCRIBED WORK OF THE BUREAU.

1. ADDITIONAL STATE ACTION.

This is wholly inadequate. The same objections apply to this suggestion on general principles as have already been made to the present condition of State corporation laws. There is now a strong positive motive leading the State legislatures toward lax and improper corporation laws, and even if all the States were actuated by most correct motives, nevertheless, it is obviously impossible that forty-five different jurisdictions should agree on anything like a uniform system in so important a matter as corporation law.

2. DELEGATION BY THE UNITED STATES TO THE INDIVIDUAL STATES OF THE CONTROL OF INTERSTATE COMMERCE.

Two objections, each conclusive in itself, can be made to this suggestion:

(a) Such action is believed to be unconstitutional. Congress has no power to divest itself of its constitutional powers or to delegate the same to any other legislative body.

(b) Even supposing that this could be legally done, the results would be open to the same objections as have been referred to just above.

3. FEDERAL INCORPORATION.

This is one of the two more practical methods suggested. It assumes the passage by Congress of a complete corporation law with the compulsory requirement that all corporations engaged in interstate com-

merce shall be organized under such law. It contemplates that such corporation law shall be so drawn as to embody all the necessary and proper features to provide an efficient form for the carrying on of corporate business, and at the same time to safeguard properly all the interests involved therein. Such a law should have three principal features.

(a) The creation by Congress of corporations with power to engage in interstate commerce.

(b) The prohibition upon all other corporations from engaging in such commerce.

(c) The granting to such Federal corporations of the right to *manufacture* and *produce* within the several States.

The first two powers are subject to no vital legal objections, nor can a State make any essential opposition to them even by the right of taxation. The chief difficulty in the Federal corporation law, as above indicated, arises in connection with the third of the foregoing essential features, to-wit, the question: Can Congress give to an "interstate commerce corporation" the additional power to *produce* or *manufacture* in any State so that that grant of power shall be valid as against the States or individuals? In the absence of direct judicial decision on this point, it is impossible now to determine this question conclusively, and the answer to it must be made by reasoning from inference and on general principles.

Furthermore, there would be the practical difficulty of giving to the States power of taxation over such corporations in such manner as to permit the States to obtain the amount of revenue which they now collect from corporations domestic and foreign. The suggestion that the Federal incorporation law be made optional fails to meet the difficulties, for the reason that it would not be taken advantage of unless its conditions were more satisfactory to the corporations, and especially their promoters, than offered by existing State laws; and if such were the conditions, there would be no benefit to the public and no remedy of existing evils.

A more complete discussion of the power of Congress to grant to Federal corporations the right to *manufacture* and *produce* within the several States is contained in Appendix A, hereinafter.

4. FEDERAL FRANCHISE OR LICENSE SYSTEM FOR INTERSTATE COMMERCE.

The principal features of such a system would be:

(a) The granting of a Federal franchise or license to engage in interstate commerce.

(b) The imposition of all necessary requirements as to corporate organization and management as a condition precedent to the grant of such franchise or license.

(c) The requirement of such reports and returns as may be desired, as a condition of the retention of such franchise or license.

(d) The prohibition of all corporations and corporate agencies from engaging in interstate and foreign commerce without such Federal franchise or license.

(e) The full protection of the grantees of such franchise or license who obey the laws applicable thereto.

(f) The right to refuse or withdraw such franchise or license in case

of violation of law, with appropriate right of judicial appeal to prevent the abuse of power by the administrative officer.

No fundamental legal difficulty can be discovered in this plan. Congress would grant to corporations that meet the proper conditions power to engage in interstate commerce; would fix the conditions under which their business should be done in such manner as to remedy the present defects in the State corporation law, and would require all corporations and corporate agencies engaged in interstate commerce to make returns to a Federal bureau, showing the amount and nature of the business done, and such other facts as may be desired. Furthermore, this plan obviates the difficulty regarding State taxation.

Inasmuch as practically all the important corporations of the present time are engaged in interstate commerce, and as the United States has the right to fix conditions to this license to engage in interstate commerce, this system would enable the Federal Government to reform the present condition of corporate business in all its important features.

A discussion of the details of the franchise or license system is contained in Appendix B, and a comparison of this system with that of compulsory Federal incorporation is contained in Appendix C, hereinafter.

SUMMARY.

As shown by this report, the work of the Bureau has thus been almost entirely the laying of a foundation of accurate knowledge of the legal and general business conditions with which it must deal and a clear definition of the problems for the consideration of which it was created.

The result of the work may be thus summarized:

1. Commercial and industrial conditions present the foremost problems of to-day. There exists a deep-rooted general feeling of dissatisfaction with existing conditions. Some causes of dissatisfaction are apparent, and the evils very real and great.

2. The present legal conditions under which corporate business is carried on are extremely unsatisfactory. They admit of, and invite, extreme abuse. They are the result of forced growth under divergent pressures, and in their present anomalous state represent the needs or demands of special interests, and are not a permanent body of law adapted to provide properly for all the interests involved.

Furthermore, the "State system," applied to interstate businesses, has developed additional and peculiar evils; a diversity so great as to amount in operation to anarchy; an inevitable tendency toward the lowest level of lax regulation, and the unequal and disastrous contest between State legislatures and commercial forces of national size and power.

3. No satisfactory reform is to be expected under the "State system" of incorporation.

4. The Federal Government has at its command sufficient power to remedy these conditions in its control of interstate commerce, supplemented by subsidiary and incidental powers.

5. So far the commerce clause of the Constitution has had a negative development only, both under Congress and by judicial interpretation. With the exception of the interstate-commerce act—the force of which has been seriously weakened by judicial interpretation—and

the navigation laws, there has been no really affirmative attempt to regulate interstate commerce. The commerce clause has been chiefly used to prevent the interference by States with interstate commerce.

6. The creation of this Bureau affords a means for getting essential facts. In addition to the value to Congress of such information, the publication of facts, the dissemination of knowledge, will bring into existence the influence of an enlightened public opinion which properly applied would go far to develop the sense of public trust involved in the control of private wealth and the sense of personal responsibility on the part of officers or managers of corporations.

7. The work of the Bureau can proceed along the lines of inquiry and report, adding fact upon fact in proof of existing conditions, but no real remedy can be expected until Congress takes action by affirmative use of the great powers granted under the commerce clause of the Constitution.

8. The possible Congressional actions are:

(a) Delegation to the States of control over interstate commerce. This is believed to be unconstitutional, and secondly subject to all the objections applicable to the present "State system."

(b) Compulsory Federal incorporation of interstate commerce companies. This is probably legally practicable, but it involves radical industrial and political changes by the centralization of power in the Federal Government, and presents serious difficulties because of its effect upon the authority of the States over such corporations in matters of taxation and local regulation. Any optional law of this character would not overcome these difficulties.

(c) Federal license or franchise for interstate commerce. Legally this is practicable; it avoids the legal difficulties of national incorporation as well as the practical one of centralization of power, and gives the National Government direct regulation of the agencies of interstate and foreign commerce.

I therefore beg to suggest that Congress be requested to consider the advisability of enacting a law for the legislative regulation of interstate and foreign commerce under a license or franchise, which in general should provide as follows:

(a) The granting of a Federal franchise or license to engage in interstate commerce.

(b) The imposition of all necessary requirements as to corporate organization and management as a condition precedent to the grant of such franchise or license.

(c) The requirement of such reports and returns as may be desired as a condition of the retention of such franchise or license.

(d) The prohibition of all corporations and corporate agencies from engaging in interstate and foreign commerce without such Federal franchise or license.

(e) The full protection of the grantees of such franchise or license who obey the laws applicable thereto.

(f) The right to refuse or withdraw such franchise or license in case of violation of law, with appropriate right of judicial appeal to prevent abuse of power by the administrative officer.

This Bureau, under the direction of the Secretary of Commerce and Labor, affords the appropriate machinery for the administration of such a law.

It is fully appreciated that this recommendation is not new, but has been the subject of most serious and exhaustive consideration by public officials and commissions, as well as private persons technically well qualified to speak. The Industrial Commission, in its final report on this subject, recommended, among other things, the adoption of a plan quite similar to this. It is neither necessary nor wise to attempt, in this report, to elaborate the details of such an act; but the Bureau has upon its files abundant and, in many particulars, exhaustive information which would be immediately available for the use of Congress or any committee thereof which might have under consideration such a measure.

JAMES RUDOLPH GARFIELD,
Commissioner of Corporations.

The SECRETARY OF COMMERCE AND LABOR.

APPENDIX A.

FEDERAL INCORPORATION—CAN CONGRESS CREATE CORPORATIONS TO ENGAGE IN INTERSTATE COMMERCE, AND ALSO GRANT THEM FRANCHISES TO PRODUCE?

There are a number of legal principles to be considered in this question, some of them well determined and others not wholly settled. It may be asserted definitely—

(*a*) That Congress has the power to incorporate a company for the purpose of regulating interstate and foreign commerce.

McCulloch *v.* Maryland, 4 Wheat., 315;
California *v.* Pacific Ry. Co., 127 U. S., 39–40;
Luxton *v.* North River Bridge Co., 153 U. S., 529.

(*b*) That Congress, for the purpose of regulating interstate commerce, may prohibit a State corporation from engaging in such commerce. Congress has never attempted specifically to make such prohibition, but a number of laws prohibiting commerce in various forms, especially the Embargo and Non-Intercourse Acts, have been upheld, many of which are much more radical in their nature than the said prohibition of State corporations from interstate commerce.

Embargo and Non-Intercourse Acts; U. S. *v.* Brigantine *William*, 2 Hall's Law Journal, 255 (U. S. District Court, Massachusetts, September, 1808);
U. S. *v.* Marigold, 9 Howard, 559;
U. S. *v.* Joint Traffic Ass'n, 171 U. S. 505;
Lottery Cases, 188 U. S., 321, 360.

And as to the similarity of foreign and interstate commerce on this point, see—

Bowman *v.* Railroad Co., 125 U. S., 482;
Crutcher *v.* Kentucky, 141 U. S., 57.

(*c*) That a state can not interfere with the operations of a corporation, chartered by the United States for the purpose of regulating commerce and acting within such charter, in any such manner as will hinder, impede, or burden such corporation in carrying out such purpose.

McCulloch *v.* Maryland, 4 Wheat., 315.

(*d*) That a corporation constitutionally chartered by the United States and not expressly limited in its operations to any part of the United States is not a foreign corporation as to the soil of any State, nor does its status there depend upon "the comity of States."

(*e*) Any State can prohibit a corporation of a foreign State from doing domestic business within the borders of the first State, or place such conditions as it chooses upon the right to do such domestic business.

Paul *v.* Virginia, 8 Wall., 168;
Pembina Mining Co. *v.* Pa., 125 U. S., 181.

(*f*) A State can lay no burden or impediment upon the interstate business of a foreign corporation doing such business within such State, subject, however, to the possible modification referred to below in (a).

Case of the State Freight Tax, 15 Wall., 232;
Railroad *v.* Peniston, 18 Wall., 5;
Gloucester Ferry Co. *v.* Pa., 114 U. S., 196.

To discuss the propositions less well settled—

(a) The question of the power of a State to tax the gross receipts of a corporation engaged within that State in interstate commerce, which receipts are derived from such commerce, is in an unsettled condition, owing to the last important decision on

the subject, to-wit, the case of Maine *v.* Grand Trunk Railway, 142 U. S., 217. Up to the time of that decision it was supposed that the doctrine had been settled that gross receipts, derived from interstate commerce, could not be taxed by a State. The court in the Maine and Grand Trunk case, by a majority of one, held that the franchise or right to do interstate commerce of a railway company engaged in such commerce in the State of Maine could be taxed by laying a tax upon a fraction of the entire gross receipts, determined by the ratio of the entire mileage of said road to the mileage in the State of Maine. This decision was based on the reasoning that the tax was one upon a franchise granted by the State, and was a condition of the grant of such franchise, or of its continuance, and that the basing of such tax upon a proportion of the gross receipts was merely a formal method of determining the value of such franchise. A vigorous dissenting opinion by four judges was filed. It would seem that if this case is conclusive, the old rule against the taxation of interstate commerce can be readily evaded, at least as regards domestic franchises, by a mere form of words in the statute. (For further discussion of this subject see Appendix D.)

(b) Of a similar nature to the above question is the question whether a State may practically tax the interstate commerce of its own corporations, or under its own franchises, by making it a condition of such charter or franchise that an annual tax shall be paid upon the receipts from interstate commerce by such corporation. Such a condition has been held valid.

Railroad Co. *v.* Md., 21 Wall., 456.

It is to be noted that these last two principles are based upon the theory that a State has the right to make any condition it chooses upon its own grant or franchise. This would accordingly extend this principle of taxation only to corporations holding a franchise from the taxing State; but inasmuch as many interstate corporations must ordinarily have a State franchise to carry on their business (e. g., railroads), it gives this taxing power a wide scope, and could only be conclusively avoided by corporations taking out a franchise under Federal authority.

(c) A further principle, which, however, may be modified by future decisions, has been established in the Knight case (U. S. *v.* E. C. Knight Co., 156 U. S., 1), to-wit, that the *intent* of a manufacturer to use his manufactured articles in interstate commerce, and the great probability that he will do so, do not render such manufacturing operations interstate commerce, so as to give the United States the right to regulate such operations—that is to say, that production does not imply interstate commerce, however likely it may be that the intent of the producer and the ordinary course of business may make the articles produced the subjects of interstate commerce.

It should be noted here, as brought out later in more detail, that this is not the same thing as saying that interstate commerce does not imply production.

Cases subsequent to the Knight case seem to have deprived it of considerable force, and to be tending to the establishment of the principle that the existence of a *power* to control interstate commerce, together with the *intent* to use this power, makes that power subject to Federal regulation, regardless of whether such power has been actually exercised or not.

Northern Securities Co. *v.* U. S., 193 U. S., 197.

With these principles in view, there appears to be but one important legal difficulty in the way of a compulsory Federal incorporation act, which shall have as its three main features—

(a) The creation of corporations by Congress with power to engage in interstate commerce.

(b) The prohibition upon all other corporations from engaging in such commerce.

(c) The granting to such Federal corporations of the right to *manufacture* and *produce* within the several States.

The first two powers can be met with no legal objections, nor can a State make any essential opposition to them, even by the right of taxation, it being unquestioned that, while a State may possibly tax its own franchise, although used for interstate commerce, it can not tax a Federal franchise.

The third proposition, (c), is the one which raises the chief legal difficulty, to the consideration of which this appendix is mainly devoted, to-wit: Can Congress give to an "interstate-commerce corporation" the valid additional power to *produce* or *manufacture* within any State? In other words, is the power to *produce* a sufficiently proper and necessary incidental to the power of regulating interstate commerce by the creation of such corporations?

Two reasons may be asserted, therefore, for the validity of such a power—

(a) That it is an appropriate incidental to the object in view.

(b) That it is an absolutely essential means for carrying out such object.

THE POWER TO PRODUCE AS AN APPROPRIATE INCIDENTAL.

It is submitted that the power to produce to be granted by Congress to a Federal interstate-commerce corporation is a proper incidental to the powers of such corporation for the purpose of regulating interstate commerce. Congress, as in the Knight case, may perhaps be unable to regulate production by *State* corporations, because such corporations are not necessarily, or are only imperfectly and partially, the instruments of interstate commerce; but if Congress itself creates a corporation as an instrument expressly to carry on interstate commerce, the power of Congress over such corporation, inasmuch as it is strictly an instrument of interstate commerce, is unlimited, and the powers of such corporation must be plenary to carry out the constitutional object of its creation. And if production is a proper incidental of interstate commerce, then such corporate powers must include production.

The statement of Chief Justice Marshall, so often quoted, seems to cover completely the power to produce and the right to grant a franchise for that purpose—

"Let the end be legitimate, let it be within the scope of the Constitution, and all means which are appropriate, which are plainly adapted to that end, which are not prohibited, but consist with the letter and spirit of the Constitution, are constitutional." (4 Wheat., 420.)

Even if it be granted that the power to produce is not an absolutely *essential* incidental to the power to engage in interstate commerce, is it not clear, however, that this power to produce comes easily and plainly within the appropriate and unprohibited means described in the said quotation? The "end," the regulation of interstate commerce, is "legitimate" and "within the scope of the Constitution." The "means," a corporate franchise to produce, is "appropriate," "plainly adapted to that end," in no way "prohibited," but consistent "with the letter and spirit of the Constitution."

The power to charter a corporation to carry on interstate commerce, other than companies connected solely with transportation, means the power to charter a corporation that shall deal by sale and exchange in the subjects of commerce. A natural and appropriate part in ordinary business usage and by all commercial practice in such transactions is the manufacture and production of such articles of commerce—that is, the ordinary corporation that sells articles also usually produces them. Any complete separation of these two functions of production and exchange would be exceedingly unusual and wholly inexpedient from the economic standpoint. No business man would think of permanently disassociating them. Thus it follows that if a Federal corporation can be chartered as a means of regulating commerce, one of the usual and appropriate parts of such powers is the power to produce.

It therefore appears that the power to produce—the franchise to produce—accompanies naturally, and as a part of this appropriate means, the power—and the franchise—to exchange; that this subordinate power to produce is a natural and prima facie corollary of the power to exchange, and a natural part of this constitutional machinery for the regulation of commerce, and that any one who contests this subordinate power to produce has upon him the burden of proof of its unconstitutionality; that prima facie this subordinate power is constitutional.

In short, the power or franchise to produce seems at least one of the appropriate means that Congress, in its wisdom and discretion, may consider as fairly a part of the powers of an interstate-commerce corporation chartered by Congress.

As an illustration of the way in which Congress has already granted special powers to its corporations, incidental to their main powers, the case of the national banks merits consideration. These banks have been chartered under the general fiscal powers derived from those sections of the Constitution which provide as follows:

The Congress shall have power—

To lay and collect taxes, duties, imposts, and excises, to pay the debts and provide for the common defense and general welfare of the United States; but all duties, imposts, and excises shall be uniform throughout the United States.

To regulate commerce with foreign nations and among the several States, and with the Indian tribes.

To coin money, regulate the value thereof, and of foreign coin.

And as incidental to the banking system thus developed, national banks have been also granted additional powers (Rev. Stats., U. S., 5136–5137) as follows:

(1) All such incidental powers as shall be necessary to cary on the business of banking.

Under this, and evidently regarded as such incidental and necessary powers, are the following:

(*a*) "Discounting * * * notes, drafts, bills of exchange, * * *."

(*b*) "Receiving deposits."

(*c*) "Buying and selling exchange, coin, and bullion."
(*d*) "Loaning money on personal security."
(*e*) "Obtaining, issuing, and circulating notes * * *."
(2) General formal powers constituting the peculiar characteristics of a corporation.
(3) Holding land for debts as well as for actual use.
(4) Right of taking interest.

Is it not obvious that many of these powers are no more necessary to the carrying out of the aforesaid constitutional powers than production is necessary for the carrying on of interstate commerce?

A banking business might easily be carried on without "buying and selling exchange, coin, and bullion;" without holding land for debts; without the full power of "discounting notes, drafts, and bills of exchange."

And yet all these powers have been upheld or have never been contested.

There is no question of the power of Congress to create and use the corporate form or machine as a means of carrying out constitutional powers, and when a particular means is constitutional the powers of Congress relating to that means are plenary. Once granting the propriety of the general power to regulate interstate commerce by the corporate form, it then follows necessarily that the discretion of Congress in the matter is very broad, reaching to every means, form, incidental, and detail not plainly prohibited.

THE POWER TO PRODUCE AS AN ABSOLUTE ESSENTIAL.

It is submitted that the power to produce to be granted by Congress to a particular interstate-commerce corporation is also an absolute essential to the powers of such corporation for the purpose of regulating interstate commerce.

The decision that apparently stands most opposed to this proposition is of course the Knight case. The Knight case involved a very important question as to the relation of the United States with the States. If that case had been decided in a way contrary to that in which it really was decided it would have gone far toward establishing the principle that the United States had control of all State business, whether domestic or foreign, on the ground that the same *might*, in the ordinary course of trade, involve the subjects of interstate commerce, and that the articles produced by State manufacturing concerns might have become the subjects of such commerce. The court probably must have considered that a decision of such nature would have swept all important domestic manufacturing business under Federal control, because any business may have an interstate feature or may at any time develop one. In the case of Kidd *v.* Pearson (128 U. S., 1), the court actually gave this reason at length. It is probable that this point had a strong influence on the decision in the Knight case. A decision for the United States in that case would have gone a long way in breaking down State power. The remarks of Mr. Justice Lamar in Kidd *v.* Pearson, *supra*, indicate the views of the court on this point. This latter case involved the refusal by the State to allow the manufacture within that State of certain goods, even though they might be *intended* for interstate commerce. The refusal was held valid on the ground that the intent did not govern.

But it seems a fair assumption that if the United States in the Knight case could have shown positively that the domestic production of sugar there in question *must necessarily* and *inevitably* have involved interstate commerce the decision would have been the opposite of what it was, for the connection between such commerce and such production would then have been absolute and not contingent—a necessity instead of a mere possibility or probability.

In other words, the force of the Knight case must not be extended beyond the actual facts therein involved. This case established the principle that production does not imply interstate commerce (no matter what the intent of the producer may be or the probability as to the future use of the goods produced).

But this is a very different thing from saying that interstate commerce does not imply production. On the contrary, it is submitted that it does imply production to such an extent that the power to produce is a necessary constitutional incidental of the powers of such proposed "interstate-commerce corporations."

Production is an indispensable prerequisite of commerce, whether interstate or otherwise. Production may exist without commerce, certainly without a specified form of commerce, such as interstate commerce. All the articles produced by a manufacturer within a given State may be sold or consumed within that State, and no interstate commerce need be the result of such production. On the other hand, interstate commerce can not exist without production. The existence of commerce implies necessarily the existence of production. Commerce is, in point of time, a secondary act; it is the doing of certain acts and the engaging in certain transactions

which relate to certain articles, to wit, the subjects of commerce, and unless such articles exist such acts and transactions and such commerce can not exist. Production is necessary for the existence of the subjects of commerce. Commerce depends upon production. All the powers for the transaction of commerce might be granted by Federal franchise, and yet they would be wholly null, valueless, and inoperative unless there were also means of bringing into existence the subjects upon which such powers shall act.

Production, therefore, being a necessary prerequisite of commerce, the right to carry on interstate commerce must ultimately involve the right to produce the subjects thereof, not only as a proper and usual incidental, but as an absolutely necessary one.

As Congress has, for the purpose of regulating interstate commerce, the unquestioned right to create a corporation, and to that end can grant it a franchise to carry on such commerce, it must also, therefore, be able to grant a franchise to produce the necessary subjects of such commerce. Otherwise the first franchise is useless, and Congress would therefore be unable to so regulate commerce and so exercise one of its constitutional powers by means of interstate-commerce corporations.

For example, let it be assumed that Congress should incorporate companies with power to carry on interstate commerce; let it be also assumed that there should exist legal power to prohibit such corporations from producing within the States; let it be also assumed that all the States should thereupon prohibit all domestic producers from selling to such Federal corporations (the legal status of this latter prohibition against sales to Federal corporations is discussed below); then obviously the Federal franchise so granted to engage in interstate commerce would be wholly inoperative and useless, because of the practical lack of the subjects of commerce, and the States would continue to control interstate commerce.

Of course Congress, as a retaliatory measure, might then prohibit State corporations from engaging in interstate commerce, but the result of this would then be a mere negative situation, a deadlock, in which neither set of corporations could carry on interstate commerce, and neither power could regulate it thereby. If such were the case, we should have to admit the possibility of such a deadlock as well as the legal fact that each of the two powers may absolutely debar the other from the effective administration of interstate commerce, and that no power exists anywhere to effectively, and in the final conclusion, regulate such commerce by means of corporations. It can not be granted as a legal proposition that this power does not exist somewhere, either in the States or in the United States; and if it exists somewhere, as it must to make our governmental system complete, it should be held to exist in the United States, to which is given the power by its Constitution to regulate interstate commerce. Unquestionably the founders of the Constitution meant that the National, rather than the State governments, should control national commerce, and if this complete power exists anywhere, as it must, it must have been their intention to have it exist in the Federal Government.

It seems, therefore, that Congress must have this power to grant producing franchises, as otherwise an absolute deadlock as to interstate commerce might result.

It is said that the power to produce the subjects of commerce is an absolute essential and prerequisite to the carrying on of interstate commerce.

The opponents to the fundamental proposition might reply thereto by saying that such power to produce is *not* a necessary prerequisite to the power to carry on interstate commerce, because such "interstate-commerce corporations" *might* obtain their subjects of commerce by *purchasing* them from State corporations or individuals producing within the State, and accordingly would not be obliged to produce them themselves. But this power to *purchase* from State producers stands in the same legal relation to the power of the State as does the proposed power to *produce*. The transaction of purchase and sale between a State vendor and an "interstate-commerce corporation" purchaser is purely a domestic transaction. The "interstate-commerce corporation" is not engaged in interstate commerce when making that purchase. It might presumably use the purchased articles in domestic commerce, and, reasoning from the Knight case, neither the intent of the said Federal corporation nor the extreme probability that such articles will be used in interstate commerce is sufficient to make them legally the subjects of interstate commerce, and thus to make the transaction a part of interstate commerce.

Reasoning on this ground, it therefore appears that the State has as much right to prohibit purchases by such Federal corporations within the State as it has to prohibit production; and if it can do both, obviously it has the power to wholly annihilate any possibility of interstate commerce by such Federal corporations. Any such legal position can not, of course, be admitted. It is a flat denial of one of the great constitutional powers. We are therefore forced to the conclusion that the State can not

prohibit production by such Federal corporations because it is one of the two possible alternatives that would enable such corporations to carry on their business. These alternatives stand on the same legal footing as regards the power of the State. If the State can prohibit one it can prohibit both. Obviously it can not prohibit both. Therefore it can prohibit neither.

A test of this validity of the entire Federal franchise to produce would probably first and most naturally arise in a private suit on the ground of *ultra vires*. The action would probably be brought, or defense made by, individuals against such corporation to set aside a contract made by said corporation under such "producing" power on the ground that the contract was *ultra vires*, thus raising the fundamental question whether the franchise to produce given by Congress was a valid franchise and whether the exercise of such power could be properly had in making a purely manufacturing or producing contract. Until the Supreme Court shall have rendered a decision involving the questions thus to be raised it is impossible to say, as a matter of definite law, whether or not this franchise can be constitutionally given by Congress, and its validity must be argued, as above, by inference and analogy.

APPENDIX B.

FEDERAL FRANCHISE SYSTEM FOR INTERSTATE COMMERCE—CONSIDERATION OF DETAILS.

It is not desired to definitely put forward in this appendix any specific detailed outline of such system as being the particular means of carrying out the general conclusions set forth in the body of the report. The particular object is rather to develop as far as possible the legal questions that will be raised, in general, by such a system, and it is obvious that that purpose can best be obtained by outlining in a tentative way the possible features of such system and observing the legal propositions that would be involved therein.

I. FUNDAMENTAL PURPOSE OF THE ACT.

Briefly, its object would be to remedy, so far as is possible by legislation, those corporate evils the existence of which this Bureau is considering. A full statement in detail of those evils is not necessary here, and the matter has already been treated in some detail in the body of this report.

In general, however, it is sufficient to maintain the distinction established in the case of Cooley *v.* Board of Port Wardens (12 Howard, 299), namely, that while Congress has complete control over interstate commerce it practically exercises this power only over its national features, leaving local matters to the regulation of the States. Applying this rule to corporate business, the system in question should deal with the following features of that business:

(*a*) Where the organization or management of the corporation affects persons or interests in more than one State, as, for instance, in the furnishing of public-service facilities or necessaries between two or more States; in the offering of securities to the general public; in the seeking of credit or loans from the general public; in affecting labor conditions in two or more States; in affecting prices of goods or raw materials in two or more States, and in the controlling or coordinating, by merger or otherwise, of business in different States.

(*b*) Where such corporate conditions affect strictly the governmental agencies of the United States and the operation thereof.

(*c*) Where such conditions affect business wholly outside of State control; for instance, navigation and foreign commerce.

(*d*) Where the existing State incorporation laws are essentially an abuse of the comity of States and have, as their primary object, the chartering of corporations whose two chief characteristics shall be (1) the power to do business in other States and (2) the duty to pay taxes to the chartering State.

(*e*) Where the legislative power of a given State has been so far misused under the present tendency toward lax corporation laws that it has resulted in a distinct degeneration in standards of commercial ethics and wholly insufficient protection is given thereby to large classes of its citizens.

(*f*) Also, within these limits such a Federal law should endeavor to correct, as far as may be, those peculiar evils inherent in the corporate form as such, and referred to specifically in the body of this report; for instance, lack of personal responsibility of managers, improper use of stock as a kind of currency, lack of proper publicity as to terms of organization, overcapitalization, etc.

II. QUESTIONS OF ADMINISTRATION AND ENFORCEMENT.

1. System should be compulsory.—As part of this discussion it may be remarked that a compulsory rather than an optional franchise system is necessary. There must be a positive prohibition against engaging in corporate interstate commerce without a Federal franchise in order to make the system effective.

It has been often suggested that a Federal license law or, more particularly, a Federal incorporation law, might be made *optional;* that this law might require such publicity and fairness on the part of those coming under it that public opinion would force corporations to comply with it in order to gain the reputation of being substantial business entities. This was the basis upon which the proposed "New York business companies act" was drawn. No such optional law has been tried, so far as is known, and it is extremely doubtful whether it would be used. In order to have a Federal law of any public benefit, it must impose conditions upon corporations which from the strict standpoint of those interested in the corporation would be objectionable, inasmuch as the law must protect the public as well as the corporation. To this extent, therefore, those about to form a corporation would prefer the State law. Any such arrangement would reduce the United States practically to the position that an individual State holds now. The United States would merely offer one form of corporation law; forty-five different forms are offered now by the different States.

If corporations now do not choose to avail themselves of the known merits of the Massachusetts law, for instance, rather than the piratical possibilities of the laws of certain other States, it is hardly likely that they would avail themselves of a properly drawn Federal law. It has been especially obvious that within the last two or three years the majority, perhaps, of the great corporations have been formed, not with a view to their future or to their business stability, but with a view to the stock market and the issue of stock; and a promoter having this latter purpose in mind would care nothing about the enhanced reputation given by a sound corporate act, but would care a great deal about the enlarged possibilities of stock manipulation given by loose State law. In short, it is believed that the optional plan would fail.

2. Determination of jurisdictional facts.—The first point is the determination or definition of the corporations to which the system is to be applied; that is to say, by what practical method shall the fact be established that a given corporation is engaged in interstate commerce? This fact is, of course, the basis of all jurisdiction in the matter and must be clearly and positively fixed by some method which will admit of being adjusted to a routine and applied readily to any corporation by some Federal authority; for instance, the Bureau of Corporations. It must be as nearly automatic as possible, involving as little expense, annoyance, uncertainty, and disturbance of traffic as may be.

There are two ways, at least, in which this fact may be established:

(*a*) By reference to the *commerce itself* during its transit, or at some time between its inception and close, and most naturally at the time when it crosses the State line.

The obvious and weighty objection to this State-line basis is that it is almost impossible to make it automatic; that it would require, apparently, a custom-house system, which would be very expensive, involving great interference with business, and be wholly impracticable. It seems clear, therefore, that the establishment of the jurisdictional fact at the State line, taking the commerce itself as a basis, is a method which must be laid out of the discussion.

(*b*) The only practical alternative is by test applied, not to the commerce itself, but *to the parties.* This would naturally be operated by means of returns by corporations to the Bureau under a general law. Two difficulties appear here:

(1) Possibility of false returns by the corporation or its officers. This is not a serious danger, as the making of such false returns should subject the falsifier to severe penalty, and a violation of this rule could be rather easily proven in any given case.

(2) The second difficulty—a more troublesome one—is the possibility of evasion by the company—that is, the carrying on of its business under such form that its real interstate business would be concealed under the guise of a domestic business. This would naturally be attempted by making all its sales and purchases through an individual resident in the same State as the corporation, which individual should then sell to another individual resident in another State and where the other end of the transaction is desired to take place, so that the actual interstate commerce would apparently be between individuals only.

In other words, the corporation would attempt to change its interstate commerce from a corporate to an individual business, taking advantage of the fact that it is desired to apply this franchise system only to corporations. As a matter of law, it is of course possible to apply this franchise system to individuals; but the purpose of such a system is to remedy *corporate* evils, and present conditions do not call for any such regulation of ordinary individual interstate trade.

But the practical danger of effective evasion by such a plan is much more apparent than real. There are two reasons: In the first place, the main distinction between the real individual trade, with which no interference is intended, and the evasive trade suggested above, would be the difference between bona fide contracts of pur-

chase and sale, and contracts of agency or consignment under the fictitious guise of sales. The legal difference between these two conditions is considerable, and it will be decidedly difficult to completely cover the fictitious nature of such evasive transactions. Second, it is obvious that such a system would in practice be exceedingly cumbrous, costly, and disadvantageous to the evading corporation. In most cases it would be easy to establish the fact that the individual seller or buyer was merely the agent of the corporation, and his status can be thus described in the act.

There would, however, remain a number of cases close to the line, especially with small corporations doing their business wholly through jobbers, where it might be hard to determine whether the contract made by the corporation with the jobber was a part of interstate commerce in disguise, or a purely separate contract and a bona fide domestic transaction.

In this connection it should be noted that either a Federal incorporation law or a Federal license law involves a practical difficulty, which is substantially new to our governmental operations; i. e., either system requires the dividing of the business of the country into two great classes, interstate and domestic, for the purpose of jurisdiction over corporations. This has never been done before, *administratively*. All that has been done so far is for the court to say in specific cases, with all the facts before it after a long trial, that such and such an act was or was not interstate commerce.

But this is quite a different thing from making a system by which an administrative bureau can, with the ease and speed essential to administrative action, test and determine this question for all corporations in the country. There are indicated above the practical difficulties of establishing, for administrative purposes, the jurisdictional fact of interstate commerce.

It would possibly be sufficient to give the Bureau power to determine *prima facie* the existence of this fact, leaving a right of appeal to the United States courts from such determination, and allowing the Bureau jurisdiction on the *prima facie* determination until reversed by the court of first instance, after which the jurisdiction should be suspended pending an appeal by the Bureau.

This power should also, of course, expressly include the power to apply in said *prima facie* manner the license requirements to any individuals who were, in the opinion of the Bureau, acting as virtual selling or purchasing agents for corporations for the purpose of evading the license law.

Prima facie jurisdiction having thus been established the Bureau should be given means of enforcement based upon this fact in the form of some general right to impose a penalty, or to cause the restraint of the offending corporation from engaging in interstate commerce.

III. DEFINITION OF INTERSTATE COMMERCE.

It is believed that no serious difficulty will arise in most cases on the question as to what constitutes "interstate commerce." It is merely desired to note here that it will be unwise in the proposed act to attempt any specific definition of such commerce. It is believed that it would be better to use merely the words of the Constitution. Any attempt to define such commerce otherwise will be certain to omit features which may come into existence later. The meaning of the words "interstate commerce" is a matter of common knowledge as regards their application to the great bulk of present transactions, and in doubtful cases the determination can be secured by judicial decision. It is chiefly essential that the law should be broad enough in its scope on this point to cover any transactions which may be hereafter determined interstate commerce.

IV. MATTERS TO BE LEFT IN CONTROL OF STATES.

Keeping in mind the logical division of corporate conditions as between the United States and the States it is obvious that there should be left in control of the States such matters as peculiarly affect local conditions—as, for instance, protecting the life and health of citizens and their morals, the governmental agencies of the State, the right of the State to tax the property within its limits, the definition of contractual rights as relating to the domestic commerce, and their enforcement in the State courts, and all matters affecting real property located in the States. The use of the phrase "police powers," though technically appropriate here, has been avoided on account of its indefiniteness.

V. OUTLINE OF ESSENTIAL MACHINERY.

In order to accomplish the purposes of the proposed system it would, in general, be necessary for the Bureau to have full information as to corporate conditions. This would require such information as is necessary to give, in the first place, (*a*) a basis for jurisdiction, and (*b*) a basis for action in case the requirements of the law are not complied with. This would call for a regular system of annual reports from corporations, giving their form of organization, management and methods of business, financial condition, volume of trade and direction of the same, prices, cost and character of production, and all selling or buying agencies.

It is possible that some more substantial basis than need for information may be required in order to make this report full and satisfactory. It is often found that a system of reports which is based solely on the principle of publicity or of the need of information lacks the necessary "sanction" to render it properly enforceable. It is suggested that this system of reports would be much strengthened if it were based partially on a small Federal tax, largely nominal and merely sufficient to support the Bureau and to furnish a formal legal basis for the acquisition of the information desired. This tax would not be intended to accomplish any substantial change in the present system of corporate taxation.

Further, it should be noted that only certain portions of this information should be made public. The amount of publicity should be determined by the respective rights of the various interests involved in corporate business, and care should be taken to protect amply the rights of privacy, which are properly essential to the carrying on of business.

Specifically, a Federal franchise system, as above discussed, should have the following requirements:

(1) Annual reports from corporations as to their business, of such a nature as to show—

(*a*) Whether it is interstate or not.

(*b*) To fully inform the Bureau as to the details of the organization, the arrangement of stock interests, the property taken by the company at its inception and the consideration paid therefor, the terms of subscription, the bond indebtedness and the interests of the promoters therein, the personnel of the management, the charter and by-laws, the number and local distribution of stockholders, all contracts in full made with promoters and with financial interests in the organizing of the company, and all special legislation relating to the company. (These points might be stated in the first report and not repeated thereafter unless conditions were changed.)

(*c*) The financial condition of the company, showing its assets and liabilities, a statement of its business from the side of production, showing the character of goods, their distribution, prices, cost of production, condition of labor and wages, condition of plants and machinery, salaries, office expenses, taxes, and insurance.

(*d*) In public-service corporations special information should be required, directed to the question of discriminations and facts which bear upon this point.

(2) Provision for publication of so much information as is necessary to allow the public to protect itself against fraud and the abuse of minority interests.

(3) Provisions making false returns penal, and allowing for investigation by the Bureau as to the fact of falsity.

(4) Provisions, as suggested above, against evasion through selling agents.

(5) Provision for a nominal tax for the support of the Bureau.

(6) Issuance of a license to corporations complying with the requirements of this law.

The foregoing requirements apply almost wholly and exclusively to publicity. Some positive regulation by the Federal Government should also be added, possibly in some of the following forms:

(7) That corporations taking a Federal license should conform the status of their capital stock, bonds, and indebtedness to principles laid down by the act.

(8) Reports as to condition of company to be required for the stockholders.

(9) Increase of personal responsibility of managers and directors.

(10) Prohibition of discriminations by public-service companies.

(11) Prohibition of those classes of commercial methods which are clearly unfair competition.

(12) Power in the Bureau in the first instance to enforce so many of the above provisions as may be adopted. Such enforcement would probably be by the action of the Bureau as a prosecuting officer and would require provision for complaints to the Bureau.

APPENDIX C.

FEDERAL FRANCHISE SYSTEM v. FEDERAL INCORPORATION.

The essence of the difference between these two systems lies in the question whether corporations doing interstate commerce shall retain State franchises or not.

The *franchise system* consists practically in conferring on State corporations a Federal franchise to do interstate commerce under certain conditions in addition to their State franchises. The State corporate entity is retained, and all Federal regulation of such corporations would have to be within the limits imposed by the fact of State incorporation.

Federal incorporation means the complete abandonment of the State corporate entity and the substitution of a Federal entity therefor.

The two main questions raised by a comparison of these two systems are:

(*a*) The respective practicability thereof. This will be considered later.

(*b*) The respectively different effect these systems would have on the relations between the State and the United States as to such corporations, especially as to the legal questions that would be raised by the two systems.

Quite diverse sets of legal questions are raised by the different systems.

LEGAL QUESTIONS RAISED.

Legal questions under Federal incorporation.—(*a*) Can the United States grant a strictly manufacturing or producing franchise? (See Appendix A.)

(*b*) Can the United States charter a company at all merely to engage in interstate commerce, and as a means of regulating interstate commerce? (See Appendix A.)

(*c*) How far would such companies be subject to State police laws?

(*d*) How far to State tax laws?

(*e*) How far could the United States by permissive laws give the States police, taxation, or other powers over such companies?

(*f*) What prohibitive powers over such companies or their operations, if any, could be exerted by the States in defiance of United States laws—i. e., how far would States retain absolute power to burden or restrict the operations of such companies?

(*g*) What portions of the organization or conduct of such companies would the United States be without constitutional power to regulate or provide for?

Legal questions under franchise system.—This system presents the very common case of corporate entities created by one authority and regulated by another in certain features, a condition that occurs regularly under the present "State system." The dual jurisdiction is the prominent feature in this system and upon this feature would be based most of its difficulties and objections.

Neither system is or can be wholly free from the dual jurisdiction. But the franchise system emphasizes this, while the Federal incorporation system reduces it to a minimum.

(*a*) Can a State refuse to allow one of its corporations to accept a Federal franchise?

(*b*) Can a State prohibit or a private individual prevent a foreign corporation with a Federal franchise from manufacturing or doing a domestic business in the State?

(*c*) Are all State corporation laws broad enough in their permissive principles to allow their corporations to comply thereunder with the necessary conditions for corporate improvement that must be required by a United States license law? Can the necessary reorganization of corporations be accomplished under all the State laws? If not, what States would be omitted and what would be the practical result? Would it be to compel the States to bring their corporation laws to a uniform standard?

(*d*) Can the United States attach to the right to do interstate commerce the conditions under which a State corporation shall carry on its purely domestic business; and if so, how far can it thus regulate purely domestic business?

(*e*) How far can the United States thus extend its police power over such corporations, and what would be the irreducible minimum of State police power, if any?

(*f*) Questions of taxation: Apparently few especially new legal questions would be raised here by this system.

(*g*) How far would the desired national uniformity of corporate law and conditions be secured under this system?

General.—One question under both systems is the possibility of evasion presented by the use of an individual selling or purchasing agent for corporations, so that all interstate commerce per se would be carried on outside the corporate form. This has been treated in detail in Appendix B.

COMPARISON IN DETAIL OF ADVANTAGES AND OBJECTIONS.

Federal incorporation—Advantages.—The one merit of the Federal incorporation plan is that it is based upon a clean-cut legal theory, that it brings the entire matter of interstate commerce under one jurisdiction, and reduces to a minimum the friction that must occur between Federal and State authorities in the attempt on the part of the Federal Government to regulate interstate commerce. Federal corporations, being corporations of the Federal Government, are wholly under its control, and, except for the necessary local police jurisdiction, are wholly removed from the control of the States.

Objections.—Over against this distinct advantage there are a number of very strong objections:

(*a*) The legal uncertainty, already indicated (Appendix A), as to the validity of a Federal *franchise to produce.*

(*b*) The drastic nature of the change that would be brought about by a compulsory Federal incorporation law, and the intense opposition that would at once be aroused by the prospect that corporations of the Federal Government were to be placed in entire control of the most important part of commerce.

(*c*) The obvious reduction of State revenue from incorporation.

(*d*) The tremendous change toward centralization that such a system would produce. This is the most important objection, and is a very weighty one. It is hardly necessary to outline the vast and far-reaching effects upon the entire nation that would be produced by such a fundamental change in our commercial system.

For these reasons, it is believed that the plan of compulsory Federal incorporation is inadvisable.

Federal franchise—Advantages.—The advantages of the interstate commerce franchise plan are:

(*a*) Affording sufficient Federal control to allow of uniformity and necessary improvement of the present body of corporation law.

(*b*) The legal nationalizing of a business system that is now commercially national.

(*c*) The offering of inducements to corporations to take advantage of such a plan for the reason that such a system would afford stability, uniformity, and, to the extent of their Federal franchises, would render them exempt from State control.

(*d*) The preservation of the right of State corporate taxation.

Objections.—The objections to the franchise system for interstate commerce are as follows:

(*a*) This system would, while Federal in its purpose and intent, have its foundation in State charters, and therefore the operations of the Federal law for a given State would, to some extent, be confined within the limits of the incorporation laws of that State. The difficulty is not a serious one, as the limits of *possible* action in the various State incorporation laws are usually quite broad, and in most cases these limits would not hamper the operation of the Federal system. Furthermore, there would be a salutary tendency on the part of the States to adapt their incorporation laws to the requirements of the Federal act, and a general trend toward uniformity, even in State legislation, would probably thus result.

(*b*) This system also contemplates a division of responsibility for control of corporations between the Federal Government on the one hand and the State on the other. A certain amount of friction would thereby result, and, furthermore, any diffusion of responsibility in general tends to lessen the total amount of responsibility and to make it more difficult to determine the causes of any given abuse. Nevertheless, it must be remembered that the present State system is a much more extreme instance of this difficulty. Under that system it is a matter of daily occurrence that corporations created by one State are regulated by another. On this particular point, therefore, the proposed Federal system would be less objectionable than the present State system.

(*c*) From a political standpoint there would be a certain amount of centralization of forces in corporate matters. The pressure now brought to bear by corporations

almost exclusively on State legislatures would be partially transferred to Congress. This, however, is merely a transfer of such evils as may now exist and not an increase; and perhaps it may be fairly said that Congress, representing the power and public opinion of the whole people and responsible to the whole people, is better able to meet on equal terms those corporate influences whose business and power is also national in character than a State legislature, which represents only the power and public opinion of a single State.

(*d*) It is possible that under such a system it might be necessary to place considerable discretionary power in the hands of the bureau charged with the enforcement of the law. Opportunity might arise thereby for improper administration, but this would be guarded by the right of judicial appeal.

(*e*) A certain amount of interference with commerce and hindrance of the current of trade would inevitably result during the period of transition. It is submitted, however, that the net result of such interference would be less than under the present system.

(*f*) There would also be a number of difficulties of detail relating to the enforcement of the act, the subjects to which it shall apply, the methods of gaining information without unduly annoying business interests, and the various practical questions that arise in the enforcement of any new and fundamental legislation.

It is believed, however, that these objections are more apparent than real. Carefully drawn legislation, amended as experience may indicate and followed by a few years of judicial interpretation, would serve to define the limits of the respective jurisdictions, to establish the rights and duties under the new system, and to determine the working details thereof.

It is obvious that the bulk of the business of to-day has become national in its scope and in the interests involved, and whatever may be the inconveniences attending the change, it seems necessary that present legal conditions must be altered to correspond with commercial conditions if the corporate business of the country is to be placed upon any satisfactory, permanent basis.

REPORT

OF THE

COMMISSIONER OF LABOR

105

REPORT

OF THE

COMMISSIONER OF LABOR.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF LABOR,
Washington, July 1, 1904.

SIR: I have the honor to submit herewith a detailed report of the work of this Bureau during the fiscal year ended June 30, 1904. The report has been made in three parts. The first part relates to the laws under which the Bureau was established and under which it carries on its work; the second relates specifically to the work of the fiscal year ended June 30, 1904, while the third contains a brief description of the contents of each publication made by the Bureau during the period of its existence.

I.—ESTABLISHMENT OF THE BUREAU.

The Bureau of Labor was originally established as a bureau of the Department of the Interior by an act approved June 27, 1884. This act provided that the "Commissioner shall collect information on the subject of labor, its relation to capital, the hours of labor, and the earnings of laboring men and women, and the means of promoting their material, social, intellectual, and moral prosperity." In obedience to this law, the Bureau was organized in January, 1885, and shortly thereafter, on February 4, 1885, the policy of the office was declared, in a letter addressed by the Commissioner of Labor to the Honorable Secretary of the Interior, as follows:

> It should be remembered that a bureau of labor can not solve industrial or social problems, nor can it bring direct returns in a material way to the citizens of the country; but its work must be classed among educational efforts, and by judicious investigations and the fearless publication thereof, it may and should enable the people to comprehend more clearly and more fully many of the problems which now vex them.

Four years after its organization as a bureau of the Department of the Interior, during which time it had issued four annual reports covering the information collected and collated, as required by the organic act, the Congress established a Department of Labor, independent of any of the Executive Departments. The act establishing the Department of Labor was approved June 13, 1888, and provided—

> That there shall be at the seat of Government a Department of Labor, the general design and duties of which shall be to acquire and diffuse among the people of the

United States useful information on subjects connected with labor, in the most general and comprehensive sense of that word, and especially upon its relation to capital, the hours of labor, the earnings of laboring men and women, and the means of promoting their material, social, intellectual, and moral prosperity.

The act defined the organization of the Department and the duties of the Commissioner, and further provided—

That the Commissioner of Labor, in accordance with the general design and duties referred to in section one of this act, is specially charged to ascertain, at as early a date as possible, and whenever industrial changes shall make it essential, the cost of producing articles at the time dutiable in the United States in leading countries where such articles are produced, by fully specified units of production, and under a classification showing the different elements of cost or approximate cost of such articles of production, including the wages paid in such industries per day, week, month, or year, or by the piece, and hours employed per day, and the profits of the manufacturers and producers of such articles, and the comparative cost of living and the kind of living. "It shall be the duty of the Commissioner also to ascertain and report as to the effect of the customs laws, and the effect thereon of the state of the currency in the United States on the agricultural industry, especially as to its effect on mortgage indebtedness of farmers," and what articles are controlled by trusts or other combinations of capital, business operations, or labor, and what effect said trusts, or other combinations of capital, business operations, or labor have on production and prices. He shall also establish a system of reports by which, at intervals of not less than two years, he can report the general condition, so far as production is concerned, of the leading industries of the country. The Commissioner of Labor is also specially charged to investigate the causes of and facts relating to all controversies and disputes between employers and employees as they may occur, and which may tend to interfere with the welfare of the people of the different States, and report thereon to Congress. The Commissioner of Labor shall also obtain such information upon the various subjects committed to him as he may deem desirable from different foreign nations, and what, if any, convict-made goods are imported into this country, and if so, from whence.

SEC. 8. That the Commissioner of Labor shall annually make a report in writing to the President and Congress of the information collected and collated by him, and containing such recommendations as he may deem calculated to promote the efficiency of the Department. He is also authorized to make special reports on particular subjects whenever required to do so by the President or either House of Congress, or when he shall think the subject in his charge requires it. He shall, on or before the fifteenth day of December in each year, make a report in detail to Congress of all moneys expended under his direction during the preceding fiscal year.

SEC. 9. That all laws and parts of laws relating to the Bureau of Labor created under the act of Congress approved June twenty-seventh, eighteen hundred and eighty-four, so far as the same are applicable and not in conflict with this act, and only so far, are continued in full force and effect, and the Commissioner of Labor appointed under said act approved June twenty-seventh, eighteen hundred and eighty-four, and all clerks and employees in the Bureau of Labor authorized to be appointed by said act or subsequent acts, shall continue in office and employment as if appointed under the provisions of this act, and until a Commissioner of Labor, other officer, clerks, and employees are appointed and qualified as herein required and provided; and the Bureau of Labor, as now organized and existing, shall continue its work as the Department of Labor until the Department of Labor shall be organized in accordance with this act; and the library, records, and all property now in use by the said Bureau of Labor are hereby transferred to the custody of the Department of Labor hereby created, and on the organization of the Department of Labor on the basis of this act the functions of the Bureau of Labor shall cease.

Under this act the Department of Labor issued fourteen annual reports of the information collected and collated in accordance with the organic act, nine special reports, and a number of miscellaneous reports, many of which were made in compliance with the special direction of the Congress. Since November, 1895, the Bureau has also published a bimonthly bulletin, in accordance with a law approved March 2 of the same year, as follows:

The Commissioner of Labor is hereby authorized to prepare and publish a bulletin of the Department of Labor as to the condition of labor in this and other countries, condensations of State and foreign labor reports, facts as to conditions of employment,

and such other facts as may be deemed of value to the industrial interests of the country, and there shall be printed one edition of not exceeding 10,000 copies of each issue of said bulletin for distribution by the Department of Labor.

In accordance with the plan adopted, the bulletin has at least four regular departments of information in each issue, as follows:

First. The results of original investigations conducted by the Bureau or its agents and experts.

Second. A digest of State labor reports.

Third. A digest of foreign labor and statistical documents.

Fourth. The reproduction immediately after their passage of new laws that affect the interests of the working people, whether enacted by Congress or by State legislatures; and accompanying this there is the reproduction of the decisions of courts interpreting labor laws or passing upon any subject which involves the relations of employer and employee.

Under the act approved February 14, 1903, establishing a new Executive Department, to be known as the Department of Commerce and Labor, it was provided that, among other offices, the existing Department of Labor be placed under the jurisdiction and supervision of the new Department, this provision to take effect and be in force July 1, 1903. In accordance with the provisions of this act, the former Department of Labor, on July 1, 1903, became a bureau of the Department of Commerce and Labor. Inasmuch as no provision was made for any change in its general design and duties, its work has been carried on during the past year along practically the same lines as formerly.

II.—OPERATIONS DURING THE FISCAL YEAR 1904.

During the fiscal year ended June 30, 1904, the Bureau of Labor has issued its eighteenth annual report—that for 1903. This report presents the results of an extended investigation into the cost of living for workingmen's families, and the retail prices of the principal staple articles of food used by such families. The object of the investigation into cost of living was to determine the cost of housing, fuel, lighting, food, clothing, etc., in the average workingman's family in the United States. The object of the investigation into retail prices was to determine the changes in the prices of the staple articles of food for a period of years, and thereby to determine as nearly as possible the changes in the cost of living in the several years covered.

Reports of income and expenditure in 25,440 families in 33 States, representing the leading industrial centers of the country, formed the basis of the study in regard to cost of living. The information relating to each family was secured directly from the husband or wife, or both, by the personal visit of a special agent of the Bureau. The most important inquiries propounded were those relating to the earnings of the husband, the wife, and the children, and the expenditure of the family for housing, fuel, lighting, food, clothing, and other purposes during the year.

That part of the report which relates to retail prices represents the first extended investigation into retail prices covering a long series of years that has been made in this country. All previous price studies covering a period of years have dealt solely with wholesale prices, which, of course, do not represent accurately the cost to the small consumer.

In order to ascertain the course of retail prices of food for a series of years and the consequent changes in the cost of living as regards food the Bureau, through its agents, secured from the books of 814 retail merchants, in the same localities from which data relating to family expenditures were obtained, the retail prices of the principal staple articles of food. These figures in all cases represent the actual sales to consumers and may, therefore, be considered entirely trustworthy, and covering as they do all parts of the country they may also be considered thoroughly representative. Prices were taken for each month during the fourteen years of 1890 to 1903, inclusive, which was as far back as it was practicable to go.

An idea of the amount of work involved in an investigation such as the above may be gained when it is stated that the field work of gathering the data upon which the report is based represents the work of the entire force of agents of the Bureau for a period of thirteen months. The examination of these original reports and their tabulation and summarization involved a work equally great.

The Bureau has also completed during the year and transmitted to the Secretary of Commerce and Labor, and through him to the Congress, its tenth special report, which is a compilation of the labor laws of the United States and of the various States. This is a new edition, completely revised, of the second special report, issued first in 1892 and again in 1896. The report as now issued is printed with marginal index throughout, the laws being annotated also by abstracts of such decisions of the courts as have been made bearing upon the laws. The whole report has been very carefully and thoroughly indexed in order to make its use as a work of reference as easy as possible. All the work upon this report has been performed by the regular office force of the Bureau, and represents the work of five employees for the period of twelve months.

Another report completed and transmitted by the Bureau during the year is the eleventh special report, relating to the regulation and restriction of output in certain trades in this country and in England. The materials for this report were collected and prepared in the main by special agents of the Bureau, assisted in certain trades by experts temporarily employed.

The question of the regulation and restriction of output, both by employers and by employees, has been the subject of much discussion during recent years, but no official report dealing with the subject has heretofore been issued. In addition to the question of restriction, the information obtained and embodied in the report throws much valuable light upon the relations of employers and employees. The report covers 30 trades, being nearly all, if not all, of those which are alleged to have regulations or restrictions governing output. The report can therefore be considered as thoroughly representative of the conditions relating to the subject.

During the past year the bulletin of the Bureau has been issued regularly every other month. For the fiscal year the issues were numbers 47, 48, and 49 of volume 8, and numbers 50, 51, and 52 of volume 9. Each number has contained, in addition to one or more special articles, important agreements between employers and employees, digests of recent reports of State bureaus of labor statistics, digests of recent foreign statistical publications, decisions of courts affecting

labor, and laws of various States relating to labor. The special articles included in the foregoing numbers of the bulletin are as follows:

Bulletin 47 contained the Report of the Commissioner of Labor on Hawaii. This is the second of the reports on Hawaii issued by the Bureau of Labor under the provisions of the act of April 30, 1900, "to provide a government for the Territory of Hawaii," which required the Bureau to make reports relative to the commercial, industrial, social, educational, and sanitary condition of the laboring classes of the Territory. The first of these reports relates to the year 1901 and the second to the year 1902. The next report will be for the year 1905, and thereafter, under the law as now amended, reports will be made every five years.

Bulletin 48 contained an article on "Farm Colonies of the Salvation Army," by Commander Booth Tucker, and a study of the "Negroes of Xenia, Ohio," by Richard R. Wright, jr. The former is an account of the work of the Salvation Army in locating poor city families in farm colonies, where by their own exertions they may become home owners. The latter is a study of the social and economic condition of a community of negroes, who have been established for several generations in an Ohio town.

Bulletin 49 contained a brief summary of the eighteenth annual report of the Bureau, relating to the cost of living, and an important article on "Labor Conditions in New Zealand," by Victor S. Clark, Ph. D. The latter article is the result of several months of travel and thorough study of industrial conditions in New Zealand by an agent of the Bureau, with the special object of presenting an authoritative statement in regard to conditions there.

Bulletin 50 contained "Labor Unions and British Industry," by A. Maurice Low, and "Land Values and Ownership in Philadelphia," by A. F. Davies. The first article presents the results of a study of the effect of unions of workers upon industry in Great Britain from the points of view of both capital and labor. The second article is a study in the growth of land values and in the changes in ownership of land in a great and growing American city under the pressure of increasing population and business.

Bulletin 51 contained the "Course of Wholesale Prices, 1890 to 1903," and the "Union Movement Among Coal Mine Workers," by F. J. Warne, Ph. D. The article on wholesale prices brings down to the end of 1903 the study of the subject, begun in the bulletin of March, 1902, and continued in the issue of March, 1903. The study covers 260 series of quotations, representing all classes of staple commodities. The second article is a history of the growth and development of the labor union movement among coal-mine workers, based on official records and original inquiry.

Bulletin 52 contained an article on "Child Labor in the United States," by Hannah R. Sewall, Ph. D. This report, the result of original investigation, relates to the employment at labor of children under 16 years of age, their earnings, hours of labor, and other conditions affecting their well-being, owing to the kind of work performed and the sanitary character of the working places. The amount of schooling and health and home conditions of the children at work were also investigated. A supplementary section gives in full and in summary form the laws of the various States relating to child labor.

In addition to the preparation and completion of the above-mentioned reports and bulletins, which cover the publications of the fiscal year, the force of the Bureau has been busily engaged in the collection and preparation of data for future reports and bulletins. The annual report for 1904, which will be transmitted in the fall, relates to "Rates of Wages and Hours of Labor," a subject closely allied to that covered by the report of the previous year. The report is the result of an extended investigation among the leading manufacturing and mechanical industries of the United States, covering the period from 1890 to 1903, inclusive. A considerable portion of the work involved in the collection of data for this report and its preparation was done during the fiscal year just ended.

This investigation was designed to cover thoroughly the principal distinctive occupations in manufacturing and mechanical industries in all sections of the country, with a view of securing data which should be entirely representative of conditions, and to show the trend of wages and hours of labor during the period covered. The number of industries which will be covered in the report is 67, including 519 distinctive occupations in 3,429 establishments. The figures which will form the basis of the report have been secured in all cases by personal visits of the special agents of the Bureau to the several establishments represented, and have been drawn directly from the pay rolls and other records in existence and available for reference.

The Bureau has also been engaged in the collection of material with reference to convict labor, which will form the subject of its twentieth annual report, the report for 1905. This report will cover all penal and reformatory institutions in the United States in which productive labor to the value of $1,000 a year is performed. The collection of data for this report is already well in hand, and it is expected that the completed report can be submitted early in 1905. The report will deal specially with the economic feature of convict labor as employed in the penitentiaries, prisons, and jails of the United States.

Work has also been begun on the collection of data relative to strikes and lockouts in the United States, which will form the subject of a report that will cover the period from 1901 to 1906. The sixteenth annual report, issued in 1901, brought the facts relative to strikes and lockouts in the United States down to and including the year 1900.

In addition to work on the future annual reports of the Bureau, a portion of its force has been engaged, pursuant to a resolution of the Committee on Labor of the House of Representatives, in the collection of data for a report upon H. R. 4064, now pending in the House of Representatives, entitled "A bill limiting the hours of daily service of laborers and mechanics employed upon work done for the United States, or for any Territory, or for the District of Columbia, and for other purposes."

A large part of the manuscript of the twelfth special report has also been completed, the remainder now being in course of preparation. This report will contain information and exhaustive statistics from official sources relating to coal-mine labor in the principal European countries.

An agent of the Bureau is now in the State of Colorado making an investigation which will form the basis of an exhaustive report on labor disturbances in that State from 1880 to 1904, inclusive. The accounts of the strikes previous to 1903, as given in this report, will

be based upon local histories, official reports of State officers, and records contained in the State library of Colorado. To ascertain the facts regarding the strikes of 1903 and 1904, the agent of the Bureau is visiting the various localities involved and obtaining statements from the mine managers and union officials. He is also interviewing officials of the State, of the Mine Owners' Association at various places, of the Citizens' Alliance, and citizens generally. An effort is being made to collect complete information about the questions at issue in the various strikes and to present them clearly. On many points of controversy the report will present quotations from official announcements and signed statements issued by the two parties to the contests, presenting their divergent views.

A number of articles for publication in the bulletin of the Bureau are now in course of preparation and a considerable amount of material to be used in future numbers of the bulletin, in the form of digests of courts affecting labor and of publications of State bureaus of labor in the United States and abroad, has already been prepared.

The forthcoming July number of the bulletin will contain a summary of the eighteenth and nineteenth annual reports, relating, respectively, to cost of living and retail prices and wages and hours of labor, and already described. That for September will be devoted to a description of the exhibit of the Bureau at the Louisiana Purchase Exposition, with reproductions of the principal charts and photographs contained in that exhibit. The description will be presented in connection with a special series of papers. These papers have been specially prepared as descriptive of and supplementary to the exhibit of charts and photographs. The subjects chosen are representative of the regular work of the Bureau, although several of them have involved a large amount of special investigation and preparation. The work of preparation of the extensive exhibit of the Bureau at St. Louis, as well as the preparation of this number of the bulletin, was carried on in connection with the regular work of the Bureau, and the greater part of it was performed by the regular office force.

The titles of the series of special papers in the September number of the bulletin, representing also the subjects of exhibit at the exposition, are as follows:

The working of the United States Bureau of Labor, by Carroll D. Wright.
Bureaus of statistics of labor in the United States, by G. W. W. Hanger.
Bureaus of statistics of labor in foreign countries, by G. W. W. Hanger.
The value and influence of labor statistics, by Carroll D. Wright.
Strikes and lockouts in the United States, 1881 to 1900, by G. W. W. Hanger.
Wages in the United States and Europe, 1890 to 1903, by G. W. W. Hanger.
Cost of living and retail prices in the United States, 1890 to 1903, by G. W. W. Hanger.
Wholesale prices in the United States, 1890 to 1903, by G. W. W. Hanger.
Housing of the working people in the United States by employers, by G. W. W. Hanger.
Public baths in the United States, by G. W. W. Hanger.
Trade and technical education in the United States.
Hand and machine labor in the United States.
Labor legislation in the United States, by G. A. Weber.
Labor conditions in Hawaii.

In later numbers of the bulletin during the coming year there will appear special articles upon the following-named subjects:

Building and loan associations in the United States, by G. W. W. Hanger.
Revival of handicrafts in America, by Max West, Ph. D.
Influence of trade unions on immigrants, by Carroll D. Wright.

Labor conditions in Australia, by Victor S. Clark, Ph. D.
Labor conditions in the Philippine Islands, by Victor S. Clark, Ph. D.
Street-railway employment in the United States, by Walter E. Weyl, Ph. D.
Benefit features of trade unions in the United States and Europe, by Walter E. Weyl, Ph. D.

The articles on labor conditions in Australia and in the Philippine Islands are the results of personal visits and extended study of conditions in those countries by an agent of the Bureau sent for that purpose.

III.—PUBLICATIONS OF THE BUREAU.

ANNUAL REPORTS.

Immediately following is given a brief description of the contents of the various reports, bulletins, etc., issued since the organization of the Bureau in 1885:

The first annual report relates to industrial depressions. The information for this report was collected and classified by a force entirely inexperienced, and with a small amount of money at command. The report, however, gave the Bureau of Labor a standing, and convinced its friends that with proper financial equipment it could handle any reasonable investigation that might be committed to it. The statistics published in that report bore upon the various features involved in depressions. It brought out for the first time the relation of nations to each other as producers and the various influences bearing upon discontent, and gave a summary of the causes and a classification as to regularity of previous depressions, etc., every page bearing directly or indirectly upon the condition and the welfare of the working men and women of the country.

The second annual report relates to convict labor as carried on in the penal institutions of the country. This investigation was directed by a joint resolution of Congress. It comprehends all the facts ascertainable relating to the employment of convicts in every institution of whatever grade in the United States in which the inmates were in any way employed on any kind of productive labor. The results are exceedingly valuable. They bring out the clear and well-defined relations between convict labor and other labor, the importance of it, the character of it, the relation of cost to product, and all the other features which one might expect as bearing upon the subject. The report also contains a most valuable digest of the laws of States and of countries in the past and for the present bearing upon the employment of convicts. All the methods in vogue are fully and freely described and discussed and their advantages and disadvantages brought into relation.

The third annual report is the result of an investigation relating to strikes and lockouts occurring in the United States during the years 1881 to 1886, inclusive. The report is exhaustive and complete, so far as all the material facts relating to strikes and lockouts are concerned. The report contains a digest of laws relating to strikes and boycotts, the course of the change of sentiment in judicial decisions on conspiracies, and a brief history of the great strikes of the past.

The fourth annual report relates to working women in 22 of the larger cities of the United States. It did not undertake to investigate the work of women in the lowest industrial pursuits, nor in the pro-

fessions, nor even in semiprofessional callings, but gathered all the facts as to wages, expenditures, health, moral and sanitary surroundings and conditions, and results of work for those women popularly known as "shop girls"—perhaps the middle class of working women. The facts were almost entirely collected by women, who took every means to verify the statements made to them, and the result was a body of facts relating to more than 17,000 women. The report also comprehends what was being done in the cities canvassed in the way of clubs, homes, etc., to assist working women when out of employment or when otherwise requiring temporary encouragement.

The fifth annual report is upon the railroad labor of the country, and by it the results as to pay and the efforts of companies to assist their employees, the liability for accidents, and other features are brought out. Railroad corporations gave into the hands of the agents of the Bureau their vouchers and pay rolls, from which were taken all the facts relating to wages and earnings. When it is understood that there are nearly a million employees of the different railroad corporations in the country, the importance of securing and publishing the facts relating to them becomes apparent. The vast body of workers on the great railroad systems of the country, in whose hands the welfare of the community in many respects is placed, and upon whose faithfulness in the discharge of duty life and limb so largely depend, is a class for which all facts should be ascertained. This report has never been studied as it should be. It contains data of the greatest importance in the consideration of labor questions. The migration of labor—its tendency to change position and to seek new fields—was for the first time brought out and statistically stated. A new thought was also brought to light, resulting in what may be called the "theoretical condition" of employees working under the wage system. Philosophically, so far as the discussion of labor questions and of certain features of socialism is concerned, the fifth annual report offers material never before published.

The sixth and seventh annual reports relate primarily to the cost of producing iron and steel and cognate products and the textiles and glass in this and other countries. This work was ordered by Congress in the organic law of the Bureau. It took three years and a half of the most laborious efforts to collect and tabulate the information. The primary object of securing the information relative to the cost of production, so far as Congressional action is concerned, was to ascertain the difference between the cost of producing articles abroad and in this country, that a more scientific conclusion might be reached relative to the rates of duties necessary for the purposes of equalization. Incidentally, however, along with the collection of the data required by Congress, the wages of those working in the industries comprehended by the investigation, as stated, and the cost of the living of workers in these industries were considered, and the bulk of the reports (the sixth and the seventh) relate to wages and the cost of living, comprehending in the latter feature the facts for more than 16,000 families.

The eighth annual report was specially ordered by Congress, and relates to industrial education in different countries. It takes up the status of industrial education in the United States, Austria, Belgium, France, Germany, Great Britain, Italy, Russia, the Scandinavian countries, and Switzerland. It also deals with the kindergarten in relation to manual training, manual training in conjunction with bookwork,

tion, and that it must be construed to be limited in its operations to the particular appropriation of which it forms a part."

Since this decision, duties (sometimes at the rate of 45 per cent and sometimes at the rate of 60 per cent) have been collected on lenses and lens glasses being illuminating apparatus intended for light-house use.

The estimates made by the Light-House Board, and now before Congress, for the establishment of many light-stations were based upon the theory that lenses and lens glass for the use of the Light-House Establishment would be imported free of duty. These lenses cost, according to their size and character, from $540 to $6,328 each. The addition of 45 per cent, and in many cases 60 per cent, duties to the original cost will in each case bring the amount to be paid from the appropriation for the establishment of each light-house that much beyond the estimate for the establishment of the light which is now before Congress. From this it will be seen that not one of these lights can be established for the amount which it has been estimated the light would cost.

In view of this decision of the Comptroller, this Department, at the instance of the Light-House Board, has the honor to recommend that the proviso in the act of March 3, 1893 (27 Stat. L., 575), be modified, reenacted, and made part of the next sundry civil appropriation act, in that part relating to repairs, etc., of light-houses, so that it will stand as follows:

"That lenses and lens glass constituting, in whole or in part, illuminating apparatus for the use of the Light-House Establishment may be imported hereafter free of duty."

THE PROHIBITION OF PRIVATE LIGHTS.

The following recommendation was made in the Board's annual reports yearly from 1883 to 1895:

The Board renews its recommendation that proper steps be taken to prohibit the establishment or maintenance of private lights and buoys in the navigable waters of the United States, except with the consent of the Board, and it again asks that provisions be made to enable it to establish inexpensive and temporary lights in case of exigency and pending the action of Congress. In this connection the Board begs leave to repeat the recommendation made in its annual report for 1883:

"Some action should be taken relative to the establishment of lights and buoys by steamboat companies and other private parties, simply for their own convenience. The Board can not establish a light without special authority of law in each case. It never exhibits a light without previously issuing a formal notice to mariners, and it never extinguishes one without giving similar notice sufficiently in advance to inform all concerned. Private lights are established and extinguished without such notice, much to the annoyance of mariners, who are confused and misled by irregular beacons. Besides this, the lights, not being properly kept, go out from time to time.

"One of the best of these private lights is that exhibited from Blackwells Island by the municipality of New York City. It has gone out a number of times recently, and so much to the inconvenience, if not danger, of mariners that complaint has been made, and the Board has been subjected to unmerited criticism for failing to do what was alleged to be its duty, when in fact it has not the slightest control over that light. Under these circumstances the Board suggests that the exhibition of lights and the placing of buoys by corporations or private parties be prohibited by law. Lest any interest should suffer thereby it is further suggested that the Board, on being satisfied that it is immediately necessary to do so, be authorized to establish inexpensive temporary lights, if necessary on leased land, and to pay for their erection and maintenance, together with the cost of employing laborers to act as keepers, as is now done on the western rivers, from the general appropriations for the support of the Light-House Establishment, provided that funds can be spared from them for that purpose, and further provided that the Board shall make report of its actions in each case, with the reason therefor, so that Congress may decide as to the continuance of each light."

The Navy Department, by letter of October 1, 1903, asked in effect that the Light-House Board take charge of two large white buoys off the Harbor of Refuge Breakwater at the entrance to Delaware Bay,

which it appears were placed there in the interest of a shipbuilding firm to speed vessels of the Navy it had built.

Reply was made on October 5, 1903, to the Navy Department as follows:

LIGHT-HOUSE BOARD,
Washington, October 5, 1903.

SIR: The Board has the honor to acknowledge receipt of Department letter of October 1, 1903, suggesting that this Board take charge of certain specified buoys or institute proceedings to have them removed.

It appears from the papers in the case that the Navy Department has called the attention of the Department to the fact that there are two large white buoys off the Harbor of Refuge Breakwater at the entrance to Delaware Bay, stating that they are not indicated on the charts of the Coast and Geodetic Survey, and that it is supposed these buoys marked the trial course established by the Coast and Geodetic Survey in September, 1901, in compliance with a request from the Navy Department in the interests of Messrs. Cramp & Sons to speed vessels of the Navy.

In reply to the suggestion that this Board take charge of these buoys or institute proceedings to have them removed, this Board states that it deplores the fact that it has no power to prohibit or to permit the placing of buoys in navigable waters by public or private persons. The Board has no power to remove buoys so placed, and it has no power to take charge of buoys so placed.

The Board has more than once, in its annual reports, set out this fact and asked that it might be empowered by legislation, first, to permit the placing of buoys, under certain circumstances; second, to prohibit, under prescribed penalties, the placing of buoys by unauthorized persons in navigable waters; third, that it might be empowered to place buoys for other purposes than as aids to navigation, in cases of exigency and in its own discretion; fourth, that when buoys have been placed without due authority, to take measures for their removal; and fifth, to take charge of buoys placed by unauthorized persons, under its permission, after the exigency has passed which occasioned their emplacement.

From time to time the Board has been asked to authorize the placing of buoys by public or private persons to meet cases of exigency. In such circumstances it has been wont to reply that it has no power to authorize the emplacement of such buoys, nor did it have power to prohibit such emplacement, but that persons placing buoys in navigable waters would be liable for damages incurred by vessels led astray by such emplacement; and not only that, but the persons so placing buoys, and keeping them for a certain time in position so that vessels would be accustomed to seeing them, would be liable for damages incurred by vessels when such unauthorized buoys were removed or went adrift.

The Board regrets its inability to take charge of the buoys named in your letter, or to institute proceedings to have them removed, but it would be exceedingly glad to be authorized by law to take such action.

Respectfully,

C. T. HUTCHINS,
Captain, U. S. Navy, Naval Secretary.

THE SECRETARY OF COMMERCE AND LABOR.

The Board again urges that proper measures be taken by legislative action to enable the Board to establish temporary lights on leased sites in cases of emergency and to pay therefor from the appropriation for expenses of lighting rivers; to establish buoys for proper purposes, other than as aids to navigation, at the proper cost of any other department of the Government or private parties needing them, and to take charge of or remove such as may be or have been so established.

The Board further urges that the establishment of lights or buoys by any other than the Light-House Board be prohibited, and that the establishment by private parties of lights or of buoys in United States navigable waters which, in the judgment of the Light-House

Board, shall be detrimental to the interests of commerce and navigation be made a penal offense and be made punishable as a misdemeanor.

INCREASED ACCOMMODATIONS FOR THE OFFICES OF THE LIGHT-HOUSE BOARD.

The following recommendations made in the Board's last seven annual reports is renewed:

In previous years recommendation has been made and several times repeated that an appropriation be granted for a separate building for the offices of the Board. Separate buildings have been provided for a number of bureaus of the Treasury and other Departments whose requirements in this respect are certainly not greater than those of the Light-House Establisment.

The urgent demands for sufficient funds to maintain the direct aids to navigation and the conditions necessitating that appropriations be limited to the lowest possible figures have resulted in omitting the recommendation for a new building for the past few years. The business of the Board's office has, however, continued to increase, and the crowded condition and general inadequacy of the rooms now occupied, which are scattered about in various localities in the Treasury Department building, now require that the recommendations for proper office accommodations be renewed, and in still more urgent terms.

The office of the Light-House Board was moved in July, 1902, from the Treasury Department building to hired quarters in the portion of a private building on Thirteenth street between G and H streets NW., where it has rooms on the third, fourth, fifth, and sixth floors, thus spreading over four floors the clerks and records formerly on one floor, occasioning much inconvenience, and thereby detriment and delay to the transaction of public business. The Board therefore respectfully urges the need of a separate building to be specially constructed for the Light-House Board.

INCREASE IN CLERICAL FORCE.

The following recommendation, which was made in the Board's last annual report, is renewed:

The Board asks an additional $1,800 clerk that its appointment clerk, who now is paid but $1,600, may receive the sum named. The Board now has some 9,000 persons in its employ, each of whom receives an appointment. The additional responsibility devolved on the appointment clerk, together with the additional labor, requires this increase of pay. And then, too, this increase is needed that the work done in this office may be paid for at the same rate that the same work is paid for in other offices.

The Board continues to ask that the pay of the draftsmen who is in charge of the Board's drafting room in the absence of its assistant civil engineer be raised from $1,800 to $2,000 a year, not only that he may be properly compensated for his labor, but that the work done in this office may be paid for at the same rate that the same work is paid for in other offices.

The Board asks for two clerks, instead of one clerk, of class 3, as there is more than ever need of ability and experience in this office, and as the Board is in danger of losing the young men it has trained and educated, who are offered better places elsewhere in Government employ.

Last year the Board asked for three clerks of class 1 and it was granted two. The Board now asks one additional clerk of class 1 for the same reason for which it asked for three last year.

The Board asks for a chief messenger and a boy page, as the messenger work has largely increased since its offices were moved from one floor of the Treasury building to four floors of the rented building in which it is now quartered. Clerks are now doing the work which messengers could do better at from one-half to one-fourth the rate clerks are paid.

SUBMARINE FOG-SIGNALS.

The following is a copy of a letter, dated April 7, 1904, from the Secretary of Commerce and Labor to the chairman of the House Committee on Interstate and Foreign Commerce:

This Department has the honor to acknowledge the receipt of a letter from your committee, dated April 6, 1904, inclosing H. R. bill No. 14787, appropriating $10,000 for submarine signaling in the Light-House Establishment, and asking suggestions touching the merits of the bill and the propriety of its passage.

In reply, this Department has the honor to state, at the instance of the Light-House Board, to whom the matter was referred, for examination and report, that the Board, after full examination, recommends, and in that recommendation this Department concurs, that the bill in question be passed.

ESTIMATES FOR GENERAL APPROPRIATIONS.

Supplies of light-houses	$502,886.00
Repairs of light-houses	928,581.99
Salaries of light-keepers	852,341.49
Expenses of light-vessels	562,500.00
Expense of buoyage	570,000.00
Expenses of fog-signals	210,000.00
Lighting of rivers	350,000.00
Survey of light-house sites	1,000.00
Oilhouses for light-stations	40,000.00
Maintenance of lights on channels of Great Lakes	4,000.00
Porto Rican light-house service	90,000.00
Pointe au Pelee light-vessel, Lake Erie	4,000.00
Submarine signaling	10,000.00

Special estimates.

FIRST DISTRICT.

Ames Ledge, Maine, purchase of land	$100.00
Boon Island light and fog-signal station, Maine	10,000.00
Isle au Haut light and fog-signal station, Maine	14,400.00
Little River Head fog-signal, Maine	15,000.00
Buckle Island range lights, Maine	14,000.00

SECOND DISTRICT.

Dog Bar Breakwater light and fog-signal station, Massachusetts	$42,795.00
State Ledge light and fog-signal station, Massachusetts	52,000.00
Baker Island fog-signal, Massachusetts	10,000.00
Hedge Fence Shoal light-vessel, Massachusetts	100,000.00

THIRD DISTRICT.

New tender for light-house inspector	$135,000.00
Tender for Porto Rican light-house service	135,000.00
New tender for light-house engineer	25,000.00
Stonington Breakwater light-station, Connecticut, keeper's dwelling	6,000.00
Plum Beach light-station, Rhode Island, fog-signal	1,343.00
Jeffreys Hook light and fog-signal station, New York, light and fog-signal	1,400.00
Iona Island fog-signal station, New York, fog-signal	1,200.00
Waackaack Range beacon, New Jersey, keeper's dwelling	3,500.00
Hunts Point light and fog-signal station, New York, light and fog-signal	5,000.00
Shinnecock Bay light-station, New York, new lens, electric light, etc.	25,000.00

General light-house depot, Tompkinsville, N. Y., quarters for assistant to the light-house inspector and for the assistant to the light-house engineer	$20,000.00
Office and dwelling for light-house inspector, San Juan, P. R	15,000.00
Light-house depot, San Juan, P. R	15,000.00
Ohio Ledge light-vessel, Narragansett Bay, Rhode Island	15,000.00
Guantanamo Bay, Cuba, naval station, Light-House Service	30,000.00
Ambrose Channel, New York:	
A light-vessel, with fog-signal, about a mile to the eastward of the east entrance to the east channel	90,000.00
For a light-house at the intersection of the axis of the east channel and the west edge of it to form a range	125,000.00
To establish a tank light-vessel at the junction of the east and main ship channels	15,000.00

FOURTH DISTRICT.

For further aids to navigation in Delaware Bay and River, for establishing:	
Light-house and fog-signal on Goose Island Flats	$85,000.00
Light-house and fog-signal on Horseshoe Shoal	50,000.00
Light-house and fog-signal on Joe Flogger Shoal	75,000.00
Light-house and fog-signal on Miah Maul Shoal	75,000.00
Light-house and fog-signal on Brown Shoal	80,000.00
Light-house and fog-signal on Arnolds Point Shoal	85,000.00
Range lights on Old Mans Point	40,000.00
Range lights on 17-Foot Knoll and Marcus Hook	70,000.00
Edgemoor light-house depot, Delaware, keeper's dwelling, etc	6,000.00
Delaware Bay light and fog-signal, Delaware	20,000.00
Tender for supply and inspection in the Fourth light-house district, completing	75,000.00

FIFTH DISTRICT.

Norfolk Harbor, Virginia, various aids to navigation	$44,500.00
Ragged Point light and fog-signal station, Virginia	30,000.00
Bodie Island light-station, North Carolina, keeper's dwelling	7,500.00
Lazaretto Point depot, Maryland, keeper's dwelling	2,500.00
Chester River, Maryland, new range lights	3,000.00
Washington, D. C., light-house wharf	30,000.00
Pungoteague Creek light-station, Virginia	8,000.00
Reimbursement of owners of schooner *Bayard Barnes*	12.00

SIXTH DISTRICT.

Tender for light-house inspector, completing	$80,000.00
Cockspur and Oyster Beds Range, Georgia, keeper's dwelling	4,000.00
St. Phillips Island, Port Royal entrance, South Carolina, new range lights	18,000.00
Brunswick Bar light-vessel, seacoast of Georgia	90,000.00
Mount Cornelia light and fog-signal station, Florida	105,000.00
Inside passage from Charleston, S. C., to Fernandina, Fla., 1 light beacon and 26 daymarks	1,200.00
Reimbursement, losses of light-keepers in district	2,399.13

SEVENTH DISTRICT.

Cape Romano light-station, Florida	$45,000.00
Pensacola, Warrington Navy-Yard, Pensacola Bay, Florida, new wharf	4,700.00
Hillsboro Inlet, Atlantic coast of Florida, completion of station	20,000.00
Reimbursement, losses of keeper, Cape San Blas, Florida	124.75
Reimbursement, losses of assistant keeper, Cape San Blas, Florida	75.00
Reimbursement, Warrington Wharf Company, Warrington, Fla., damage to wharf by tender *Laurel*	11.40

EIGHTH DISTRICT.

Sabine Pass jetty light and fog-signal station, Louisiana and Texas	$40,000.00
Fort San Jacinto, Galveston Harbor, Texas, establishing a light-house depot	18,000.00
Trinity River beacons, Texas	1,800.00
Reimbursement, losses of keepers in district	2,603.62
Reimbursement of heirs of keeper in district	450.50
Reimbursement of keeper Bolivar Point, Texas, light-station	234.48

NINTH DISTRICT.

Milwaukee Breakwater and Harbor of Refuge, Wisconsin, light and fog-signal station	$100,000.00
Holland pierhead range, light and fog-signal station, Lake Michigan, Michigan	6,000.00
Pointe aux Barques light and fog-signal station, Michigan	32,000.00
Fisherman Shoal light and fog-signal station, Wisconsin	75,000.00
Little Gull Island light and fog-signal station, Michigan	20,000.00
Portage Lake pierhead range light-station, Michigan, keeper's dwelling	3,500.00
Ahnapee pierhead range, Wisconsin, keeper's dwelling	3,500.00
Waukegan Harbor pierhead light and fog-signal, Illinois	10,000.00
Frankford pierhead range, Michigan, keeper's dwelling	6,500.00
Pentwater pierhead range, Michigan, keeper's dwelling	3,500.00
Two Rivers pierhead range, Wisconsin, keeper's dwelling	3,500.00
Old Mackinac Point, Michigan, light-station, additional land	400.00

TENTH DISTRICT.

Tibbetts Point light-station, New York, keeper's dwelling	$4,000.00
Strawberry Island Cut and channels leading thereto, New York, 4 range lights	13,000.00
Grosse Isle South Channel range light-station, Michigan, keeper's dwelling	5,000.00
Fort Niagara light-station, New York, light tower	2,200.00
Horseshoe Reef light-station, New York, keeper's dwelling	6,200.00
Buffalo Breakwater, north end, light-station, New York, keeper's dwelling	6,200.00
Cape Vincent breakwater light-station, New York, keeper's dwelling and boathouse	5,000.00
Detroit River light-houses, Michigan	5,000.00
Buffalo light-house depot, New York	4,000.00

ELEVENTH DISTRICT.

Rock of Ages light and fog-signal station, Michigan, making survey, etc	$25,000.00
Isle aux Peches range light-station, Twenty-Foot Channel, Michigan, additional lights	18,000.00
Eagle River light and fog-signal station, Michigan	38,000.00
Rock Harbor, Menagerie Island, light-station range, Michigan	21,000.00
Detour light-station, Michigan, new lens, increased from $3,600 to	4,000.00
Grand Marais Harbor of Refuge range, Michigan, keeper's dwelling	5,000.00
Tawas light-station, Michigan, keeper's dwelling	5,000.00
Point Iroquois light-station, Michigan, keeper's dwelling	5,000.00
Windmill Point light-station, Michigan, keeper's dwelling	5,000.00
Portage Lake Ship Canals pierhead light-station, Michigan	55,000.00
Duluth range light-station, Minnesota, keeper's dwelling	10,000.00
Martins Reef light-vessel, Michigan	35,000.00
Michigan Island light-station, Michigan, fog-signal	6,000.00
Nine-Mile Point light and fog-signal, Michigan	38,000.00
Tender for Lake Superior, completing	90,000.00

TWELFTH DISTRICT.

Humboldt Bay light-station, California, fog-signal	$15,000.00
Cape Mendocino light-station, California, keeper's dwelling	5,500.00
Año Nuevo Island light-station, California, keeper's dwelling	6,000.00
Bonita Point light-station, California, keeper's double dwelling	15,000.00
Pigeon Point light-station, California, additional land	5,000.00
Santa Barbara light-station, California	7,500.00
Quarry Point fog-signal station, California	12,000.00
Karquines Strait light and fog-signal, California	50,000.00
Red Rock light and fog-signal, California	30,000.00
Tender for construction and repair	135,000.00

THIRTEENTH DISTRICT.

Yaquina Head light-station, Oregon, keeper's dwelling	$4,000.00
Robinson Point light-station, Washington, keeper's dwelling	5,000.00
Cape Blanco light-station, Oregon, keeper's dwelling	4,500.00
Orford Reef light-vessel, Oregon	120,000.00
Battery Point light-station, Washington, additional for completing	8,000.00
Ediz Hook light-station, Washington, tower and fog-signal building	10,110.00

FIRST DISTRICT.

This district extends from the head of navigation on the St. Croix River, Maine, the northeastern boundary of the United States, to and includes Hampton Harbor, New Hampshire. It embraces all aids to navigation on the seacoast of Maine and New Hampshire and on all tidal waters between the limits named.

Inspector.—Commander Greenlief A. Merriam, U. S. Navy, to October 26, 1903; Commander Corwin P. Rees, U. S. Navy, from October 26, 1903.

Engineer.—Lieut. Col. William S. Stanton, Corps of Engineers, U. S. Army.

In this district there are:

Light-houses and beacon lights	77
Light-vessel in position	1
Day or unlighted beacons	120
Fog signals operated by steam or oil engines	16
Fog signals operated by machinery	30
Gas-lighted buoy in position	1
Whistling buoys in position	18
Bell buoys in position	26
Other buoys in position	737
Steamers *Lilac* and *Geranium*, buoy tenders and for supply and inspection	2
Steamer *Myrtle*, for construction and repair in the First and Second districts	1

LIGHT-STATIONS.

—. *Little River Head, mouth of Little River Harbor, Maine.*—The following recommendation was made in the Board's annual reports from 1889 to 1894 and from 1896 to 1899 and in its last annual report:

> This is the entrance to Cutler Harbor, which is a station of the Eastport, St. John, and Bay of Fundy pilots. Vessels entering the Bay of Fundy first make Libby Islands and then try to make Little River light. It is a harbor of refuge, and is used as such by vessels when they can get in. This, however, is impossible in thick weather without a more effective fog signal that the bell now on Little River Island. The steamer *Eduardo* was wrecked on Old Man Island in 1889, 2 miles south of Cutler Harbor, and proved a total loss. The crew, numbering 40 in all, were saved. She cost $285,000, and her master stated formally that he was of opinion that the accident would not have occurred had there been a proper fog signal at this point.
>
> The Board recommended the establishment of a fog signal there in six annual reports. It is estimated that the establishment of such a signal would cost $10,500, and an appropriation of that amount is therefore recommended.

This estimate, which was made twelve years ago, is no longer correct, owing to the increase in the cost of labor and material. It is now estimated that it will cost $15,000 to establish this fog-signal,

and the Board recommends that an appropriation of this amount be asked therefor.

7. Libby Islands, entrance to Machias Bay, Maine.—A new fog-signal boiler, two new steam drums, and improved automatic fog-signal clocks in duplicate were provided and installed, and the entire fog-signal plant was overhauled and repaired. The boat slip, rain shed, boiler of the hoisting engine, telephone line, and both dwellings were repaired.

12. Petit Manan, seacoast of Maine.—A new fog-signal boiler was provided and installed, and the fog-signal plant was overhauled and repaired. The railroad track was relaid, and minor repairs were made to the cistern, rain shed, and dwelling.

15. Mount Desert, on Mount Desert Rock, Atlantic Ocean, about 20 miles southward of Mount Desert Island, Maine.—Two derricks were provided to facilitate landing at different points on the rock. Various repairs were made.

16. Egg Rock, Frenchman Bay, Maine.—A fog signal operated by compressed air was established.

19. Great Duck Island, about 6 miles southward of Mount Desert Island, seacoast of Maine.—A new steam drum was provided and installed, the fog-signal boilers were piped for salt water, and the barn and telephone line were repaired.

—. *Isle au Haut Harbor, Isle au Haut Thorofare, Maine.*—The following recommendation was made in the Board's last annual report:

Lower East Penobscot Bay and the water seaward for a distance of about 10 miles outside of Saddleback Ledge light-house are claimed by fishermen to be exceedingly good fishing grounds, and are frequented by fishing vessels ranging in size from 10 to 100 tons burden. Haddock are caught here from March till May; haddock, cod, and hake from May till October, and cod from October till January. The most profitable fishing is during November and December, when northeast snowstorms are apt to prevail, and are often of great severity. The trawls set by fishermen, which often contain several thousand hooks can not be suddenly left without material loss or disadvantage, and when storms or night approach the vessels often need to remain on the grounds till the last moment, when it is of the utmost importance that they be able, quickly and with certainty and safety, to make a secure harbor. Isle au Haut Harbor is the best harbor convenient to these fishing grounds, and is so convenient in distance and has such good holding ground and is so well sheltered, especially from all the worst winds, northeasterly and easterly, from which shelter is most needed, it is highly valued and much frequented by fishermen. A light-station with a fog bell, struck by machinery, would guide fishermen into this harbor when they could not find it without such aid. It is estimated that these could be established here for $14,400, and the Board recommends that an appropriation of this amount be made therefor.

—. *Buckle Island, entrance to York Narrows, Maine.*—The following recommendation, made in the last six and several previous annual reports of the Board, is renewed:

The Board is informed that something more than 1,000 sailing vessels, carrying lumber, fish, hay, coal, granite, and general merchandise, annually use this passage. There are also several lines of steamboats, some of which make two trips a day, carrying large numbers of passengers to and from Bar Harbor and other points along the shore, which would be benefited by lights on Buckle Island. In the early spring and late fall steamers, and especially sailing vessels, find it necessary to go through the passage during the night, when a light on Buckle Island would be of great assistance to them. It is further stated that several vessels have been cast away on Buckle Island, among them the schooner *Walter Scott*, which was wrecked in the winter of 1870. It is proposed, if the necessary appropriation is made, to place a white light with four red sectors,

with a post range light 100 feet in front of the main light. It is estimated that these range lights can be established at a cost not exceeding $14,000, and it is recommended that an appropriation of this amount be made therefor.

29. Heron Neck, on Green Island, East Penobscot Bay, Maine.—A boathouse and boat slip were built; various repairs were made.

30–31. Matinicus Rock, seacoast, entrance to Penobscot Bay, Maine.—A new fog-signal boiler was provided and installed, the fog-signal plant and the hoisting engine were overhauled, and the 10-inch whistle was replaced by a 12-inch whistle, making both whistles 12-inch. Various repairs were made.

33. Whitehead, on Whitehead Island, entrance to West Penobscot Bay, Maine.—A new fog-signal boiler was installed.

37. Indian Island, entrance to Rockport Harbor, West Penobscot Bay, Maine.—A stone oilhouse was built.

50. Cuckolds fog-signal station, off entrance to Boothbay, Maine.—The fog-signal plant was overhauled, and other repairs were made.

59–60. Abagadasset Point ranges, Kennebec River, Maine.—A brick oilhouse was built. The boundaries of both lots were marked with granite monuments.

61. Ames Ledge, Kennebec River, Maine.—The United States owns no land at the station. The light is shown from the ledge a short distance from the shore. It is desirable to acquire half an acre of land facing the river on which to build an oilhouse and for other purposes. This land can be purchased, it is estimated, for $100. The Board recommends that an appropriation of this amount be made therefor.

62. Seguin, seacoast, off the mouth of the Kennebec River, Maine.—A brick cistern was built, and various repairs were made.

65–66. Cape Elizabeth, entrance to Portland Harbor, Maine.—The 10-inch fog-signal was replaced by a 12-inch whistle, and various repairs were made.

68. Ram Island Ledge, entrance to Portland Harbor, Maine.—The act approved on June 28, 1902, authorized the construction of a light-house and fog-signal at a cost of $166,000, and appropriated $83,000 therefor. A further appropriation of $50,000 was made by the act approved on March 3, 1903, and the balance, $33,000, was appropriated by the act approved on April 28, 1904. On September 15, 1902, the Light-House Board authorized the construction of the station by direct hire of labor, and the purchase of materials from the lowest bidder after due advertisement, in accordance with existing regulations. The structure is to be a granite tower 28 feet in diameter at the base, 70 feet in height to the surface of the deck, consisting of 35 courses, containing 699 stones. The first stones were landed on the ledge and the setting of them commenced on July 9, 1903, and continued to September 30, 1903, when work was suspended for the season, when 16 courses had been set, carrying the tower to a height of 32 feet; the concrete backing was put in, the two cisterns carried up with the tower to their full height, and the manhole frames set and the covers put on. During the winter of 1903–4 the temporary plant was cared for at Portland, and, when the weather permitted, the work of cutting the stones was carried on at the contractors' quarries at Vinalhaven, Me.; the interior ironwork and the landing ladder were made in the machine shop in Boston, and the interior woodwork in the

storehouse in Portland. Contracts were made for enameled bricks for the tower lining and for a composition lantern, lantern floor, and parapet. The third-order illuminating apparatus is being made in Paris. From the resumption of work in April to June 30, 1904, courses numbered 17 to 34, both inclusive, of the stones for the tower were delivered and set, carrying the tower to the height of 68 feet. The setting of the enameled bricks and the drilling of holes in the ledge for the landing pier are in progress.

71. Portland Breakwater, Portland Harbor, Maine.—Some 200 tons of riprap stone were placed at the end of the breakwater for the protection of the station. Various repairs were made..

75. Boon Island, seacoast, about 7 miles off the entrance to York Harbor, Maine.—The act approved on April 28, 1904, appropriated $4,000 for the construction of a keeper's dwelling. The work will be taken in hand as soon as practicable.

The following recommendation, made in the Board's last twelve annual reports, is renewed:

There are at this station one keeper and two assistants, and but two sets of quarters in one double dwelling. The second assistant keeper has to board either with the family of the keeper or with that of the first assistant keeper. This forced arrangement is unsatisfactory to all, and is quite unfavorable to the retention of a second assistant of the needed qualifications. The station is isolated and exposed, the tower is tall, and the second-order light is an important one.

A third dwelling, which is urgently needed, it was estimated could be built for $3,400. On account of the increased cost of materials and labor for the dwelling, $4,000 will now be required, and it is therefore recommended that an appropriation of this amount be made therefor.

The following is an extract from the Board's last annual report:

Rear-Admiral (then Capt.) R. D. Evans, U. S. Navy, member of the Light-House Board, stated at the session of the Board held on October 4, 1897, that on his summer cruise he arrived off Boon Island, Maine, light-house in a fog and failed to hear the fog-signal—a bell struck by hand—under circumstances when a failure to hear it might have been extremely dangerous. The Board thereupon made investigation of the needs of commerce and navigation, and arriving at the conclusion that while a more efficient fog-signal was needed in that vicinity it would be most useful at White Island, one of the Isles of Shoals, it so recommended in its annual report for 1897, and repeated it in each annual report since, that an appropriation of $5,500 be made for that purpose. The Board has now become convinced from recent developments that the most desirable point in the region of the Isle of Shoals for a fog-signal is Boon Island. The steamers plying between Boston and Bangor run from Seguin light, at the mouth of Kennebec River, for Boon Island, and the steamers from Portland and from St. Johns to Boston all run for Boon Island in the winter, and they are all afraid of Pollocks Rock, nearly a mile southwesterly from Boon Island. The Board therefore now recommends that an effective fog-signal be established at Boon Island in addition to the bell fog-signal now there, which bell will be of use in case of the disability at any time of the proposed new fog-signal. It is estimated that such a fog-signal can be established at Boon Island for a sum not to exceed $10,000, and the Board recommends that an appropriation of that amount be made therefor.

77. Portsmouth Harbor, New Hampshire.—A brick oilhouse was built.

78–79. Seavys Island Range, entrance to Portsmouth Harbor, New Hampshire.—The range lights were discontinued on September 15, 1903.

80–81. Little Harbor, entrance to Little Harbor, New Hampshire. A brick oilhouse was built.

REPAIRS.

Repairs more or less extensive were made at the following-named light-stations:

2. St. Croix River, Me.
3. Lubec Channel, Me.
5. Little River, Me.
6. Avery Rock, Me.
8. Moose Peak, Me.
10. Nash Island, Me.
17. Crabtree Ledge, Me.
20. Bear Island, Me.
21. Bass Harbor Head, Me.
22. Burnt Coat Harbor, Me.
23. Bluehill Bay, Me.
24. Saddleback Ledge, Me.
25. Deer Island Thorofare, Me.
26. Goose Rocks, Me.
27. Eagle Island, Me.
28. Pumpkin Island, Me.
32. Two Bush Island, Me.
34. Owls Head, Me.
35. Rockland Breakwater, Me.
38. Negro Island, Me.
39. Grindell Point, Me.
41. Fort Point, Me.
43. Marshall Point, Me.
44. Monhegan Island, Me.
45. Manana Island, Me.
46. Franklin Island, Me.
47. Pemaquid Point, Me.
48. Ram Island, Me.
49. Burnt Island, Me.
51. Hendricks Head, Me.
52. Pond Island, Me.
54. Perkins Island, Me.
55. Squirrel Point, Me.
56–57. Doubling Point Range, Me.
58. Doubling Point, Me.
62. Seguin, Me.
65–66. Cape Elizabeth, Me.
69. Portland Head, Me.
70. Spring Point Ledge, Me.
72. Wood Island, Me.
73. Goat Island, Me.
74. Cape Neddick, Me.
75. Boon Island, Me.
76. Whaleback, N. H.
82. Isles of Shoals, N. H.

DAY OR UNLIGHTED BEACONS.

Mouse Island Ledge, Penobscot Bay, Maine.—A daymark, consisting of an iron spindle surmounted by a cask, both painted black, was established.

Long Ledge, entrance to Cranberry Harbor, Maine.—A daymark, consisting of an iron spindle surmounted by a cask, both painted red, was established.

Horseshoe Ledge, Bluehill Bay, Maine.—A hole was drilled in the ledge for the spindle.

Grindstone Ledge, entrance to Bluehill Bay, Maine.—A hole was drilled in the ledge for the spindle.

Lime Rock, Sassanoa River, Maine.—The replacing of the wooden daymark by an iron daymark is in progress.

Carletons Ledges, Sassanoa River, Maine.—The replacing of the wooden daymark by an iron daymark is in progress.

Jetty opposite Carletons Ledges, Sassanoa River, Maine.—The replacing of the wooden daymark by an iron daymark is in progress.

LIGHT-VESSEL.

63. Cape Elizabeth light-vessel, No. 74, entrance to Portland Harbor, Maine, about 6 miles southeasterly from Cape Elizabeth light-house, Maine.—This steam, self-propelling, wooden light-vessel was built in 1902. Her displacement is 495 tons. She has a steam fog-signal. On July 1, 1903, relief light-vessel No. 58 took her place, and she came into Portland under her own steam. On October 6, 1903, she resumed her station, and relief light-vessel No. 58 was withdrawn. She was adrift on January 22, 1904, and was replaced on her station on January 27, 1904. She received needed stores and fitments and proper repairs.

FOG-SIGNALS OPERATED BY STEAM OR OIL ENGINES.

4. West Quoddy Head, Maine.—The fog-signal plant consists of locomotive-type boilers, improved automatic clocks and whistle valves, and 10-inch whistles, all in duplicate. It has 55 pounds pressure, and 67 cubic feet of steam are used a second of blast. This whistle was in operation some 1,371 hours during the year, and consumed about 73 tons of coal.

7. Libby Islands, Maine.—The fog-signal plant consists of locomotive-type boilers, improved automatic clocks, whistle valves, and 10-inch whistles, all in duplicate. It has 55 pounds pressure, and 80 cubic feet of steam are used a second of blast. This whistle was in operation some 1,568 hours during the year, and consumed about 112 tons of coal.

12. Petit Manan, Maine.—The fog-signal plant consists of locomotive-type boilers, improved automatic clocks and whistle valves, and 10-inch whistles, all in duplicate. It has 55 pounds pressure, and 45 cubic feet of steam are used a second of blast. This whistle was in operation some 1,322 hours during the year, and consumed about 83 tons of coal.

15. Mount Desert, Maine.—The fog-signal plant consists of 4-horsepower oil engines, air compressors and air tanks, all in duplicate, and a first-class Daboll trumpet. Five pounds pressure and 1.01 cubic feet of free air are used a second of blast. This trumpet was in operation some 1,277 hours during the year, and consumed about 736 gallons of oil.

16. Egg Rock, Frenchman Bay, Maine.—The fog-signal plant, which was established on June 30, 1904, consists of 4-horsepower oil engines, air compressors and air tanks, all in duplicate, and a first-class Daboll trumpet.

19. Great Duck Island, Maine.—The fog-signal plant consists of locomotive-type boilers, improved automatic clocks and whistle valves, and 10-inch whistles, all in duplicate. It has 55 pounds pressure, and 40 cubic feet of steam are used a second of blast. This whistle was in operation some 1,324 hours during the year, and consumed about 69 tons of coal.

30–31. Matinicus Rock, Maine.—The fog-signal plant consists of locomotive-type boilers, improved automatic clocks and whistle valves, and 12-inch whistles, all in duplicate. It has 55 pounds pressure, and 79 cubic feet of steam are used a second of blast. This whistle was in operation some 1,407 hours during the year, and consumed about 86 tons of coal.

33. Whitehead, Maine.—The fog-signal plant consists of locomotive-type boilers, improved automatic clocks and whistle valves, and 10-inch whistles, all in duplicate. It has 55 pounds pressure, and 75 cubic feet of steam are used a second of blast. This whistle was in operation some 1,282 hours during the year, and consumed about 70 tons of coal.

35. Rockland Breakwater, entrance to Rockland Harbor, Maine.—The fog-signal plant consists of 4-horsepower oil engines, air compressors and air tanks, all in duplicate, and a first-class Daboll trumpet. It has 4 pounds pressure, and 1.5 cubic feet of free air are used a second of blast. This trumpet was in operation some 681 hours during the year, and consumed about 413 gallons of oil.

45. Manana Island, Maine.—The fog-signal plant consists of 4-horsepower oil engines, air compressors and air tanks, all in duplicate, and a first-class Daboll trumpet. It has 4½ pounds pressure, and 0.28 cubic foot of free air is used a second of blast. The trumpet was in operation some 1,066 hours during the year, and consumed about 533 gallons of oil. Various repairs were made.

50. Cuckold's fog-signal station, off entrance to Boothbay, Maine.—The fog-signal plant consists of 4-horsepower oil engines, air compressors and air tanks, all in duplicate, and a first-class Daboll trumpet. It has 4 pounds of pressure and 1.2 cubic feet of free air are used a second of blast. This trumpet was in operation some 1,220 hours during the year, and consumed about 573 gallons of oil.

62. Seguin, off the mouth of the Kennebec River, seacoast of Maine.—The fog-signal plant consists of locomotive-type boilers, improved automatic clocks and whistle valves, and 10-inch whistles, all in duplicate. It has 55 pounds pressure, and 76 cubic feet of steam are used a second of blast. This whistle was in operation some 937 hours during the year, and consumed about 77 tons of coal.

63. Cape Elizabeth light-vessel, entrance to Portland Harbor, Maine.—This 12-inch steam chime whistle was in operation some 553 hours during the year, and consumed about 25 tons of coal.

65–66. Cape Elizabeth, Casco Bay, Maine.—The fog-signal plant consists of locomotive-type boilers, improved automatic clocks and whistle valves, and 12-inch whistles, all in duplicate. It has 55 pounds pressure, and 94 cubic feet of steam are used a second of blast. This whistle was in operation some 781 hours during the year, and consumed about 57 tons of coal.

69. Portland Head, entrance to Portland Harbor, Maine.—The fog-signal plant consists of 4-horsepower oil engines, air compressors and air tanks, all in duplicate, and a first-class Daboll trumpet. It has 5 pounds pressure, and 0.26 cubic foot of free air is used a second of blast. This trumpet was in operation some 828 hours during the year, and consumed about 479 gallons of oil.

76. Whaleback, entrance to Portsmouth Harbor, New Hampshire.—The fog-signal plant consists of 4-horsepower oil engines, air compressors and air tanks, all in duplicate, and a first-class Daboll trumpet. It has 5½ pounds pressure, and 3 cubic feet of free air are used a second of blast. This trumpet was in operation some 752 hours during the year, and consumed about 401 gallons of oil.

BUOYAGE.

During the year there were established 2 iron spindle, 1 whistling, 1 second-class can, 1 second-class nun, and 18 spar buoys. A bell buoy was substituted for the whistling buoy off Duck Rocks, near Monhegan Island; a bell buoy was substituted for the second-class nun buoy off Corwin Rock, entrance to Portland Harbor; a bell buoy was substituted for the Old Prince second-class nun buoy, Cape Porpoise Harbor; a second-class nun buoy was substituted for the spar buoy off Hooper Island Rocks, Herring Gut; and a second-class nun buoy was substituted for the spar buoy on West Mark Island Ledge, East Penobscot Bay, Maine. There are 18 whistling buoys and 26 bell buoys in position.

LIGHT-HOUSE DEPOTS.

Bear Island, Mount Desert Island, Maine.—The coal shed was repaired and was enlarged by lengthening it 41 feet.

Whitehead, on Whitehead Island, Maine.—The wheeling stage and coal shed were repaired.

Little Diamond Island, Portland Harbor, Maine.—The wharf was extended shoreward about 66 feet; a 2-inch galvanized iron pipe was laid to carry water from the cistern to the end of the wharf, and minor repairs were made to the windmill.

TENDERS.

The Lilac.—This steel screw steamer was built in 1892 and has a displacement of 550 tons. She steamed about 14,025 miles and consumed some 1,279 tons of coal. She established 15 buoys, replaced 44 buoys, changed 206 buoys, painted 203 buoys, recovered 28 buoys, delivered 60 tons of coal to light-vessel No. 74 and 5 tons to light-stations, and worked 36 hours at the light-house depot on buoys. Various repairs were made.

The Geranium.—This wooden side-wheel steamer was built in 1863 and is of about 356 tons burden. She steamed about 5,739 miles and consumed some 509 tons of coal. She established 6 buoys, replaced 25 buoys, changed 172 buoys, painted 245 buoys and 2 spindles; recovered 4 buoys, and worked 125 days at the light-house depot on buoys. Her deterioration, inefficiency, and unremunerative cost has been frequently mentioned. An ancient wooden side-wheeler of limited use at any season, she is useless during the winter months in these waters, and by reason of slow speed and unseaworthiness she is incapable of doing more than half a tender's duty at any time, while it costs as much to run her as though she was of full value.

SECOND DISTRICT.

This district extends from Hampton Harbor, New Hampshire, to Elisha Ledge, off Warren Point, Rhode Island, but does not include either the harbor or the ledge. It embraces all aids to navigation on the seacoast and tidal waters of Massachusetts, excepting on the Taunton River and that part of Mount Hope Bay lying within the State boundary.

Inspector.—Commander C. W. Bartlett, U. S. Navy.

Engineer.—Lieut. Col. William S. Stanton, Corps of Engineers, U. S. Army.

In this district there are:

Light-houses and lighted beacons	88
Light-vessels in position	11
Light-vessels for relief	2
Day or unlighted beacons	74
Fog-signals, steam or air	12
Fog-signals, bell, run by machinery	15
Whistling buoys in position	12
Lighted buoys, gas, in position	8
Bell buoys in position	21
Electric bell buoy in position	1
Other buoys in position	577
Ice buoys for winter use	6
Steam tenders *Mayflower*, *Azalea*, and *Verbena* buoy tenders and for supply and inspection	3
Steamer *Myrtle*, for construction and repair in the First and Second districts	1

LIGHT-STATIONS.

85. Newburyport Harbor, mouth of Merrimac River, Massachusetts.—A boathouse was built. Brick foundations were provided for the light tower and dwelling, and the dwelling was repaired.

—. *Dog Bar Breakwater, entrance to Gloucester Harbor, Massachusetts.*—This breakwater is to extend 2,250 feet from the shore at Eastern Point across the entrance to Gloucester Harbor. The substructure is a rubble mound built to the height of mean low water; the superstructure is of dimension stones built to the height of 7.5 feet above mean high water with a width of 10 feet on top. It has been found very difficult to maintain a post-light on the end of the substructure during the winter, and although a lighted buoy has been kept off its outer end, quite a number of vessels have, from time to time, been seriously damaged by colliding with it. The Board recommends that a light be placed on the outer end of the breakwater, which is now approaching completion, and that a fog-signal by bell or trumpet be also established. It is estimated that a light-house with a fog-signal operated by compressed air and a first-class Daboll trumpet, the tower to be of iron with iron deck and fourth-order lantern, would cost $42,795. The Board recommends that an appropriation of that amount be made therefor.

97, 98. Baker Island, entrance to Salem Harbor, Massachusetts.—The following recommendation, which was made in the last annual report of the Board, is renewed:

It appears from the report of the collector of the port of Salem that 667 vessels, with cargoes amounting in tonnage to 482,470 tons, and 1,005 vessels for refuge, amounting in tonnage to 173,569 tons, total, 656,039 tons, entered that port during the year 1901; and that the vessels so entering the harbor with cargoes delivered at Salem, in coal alone, carried 417,924 tons, valued at $1,670,000.

Besides the vessels entering and leaving Salem Harbor with cargoes and for refuge, it is reported that a fleet of 2 steam colliers, 3 seagoing tugboats, and 16 barges, making an average of 20 trips a year and carrying about 500,000 tons of coal to ports around Cape Cod, while towing from Boston to Portsmouth, N. H., and Portland, Me., are frequently compelled to run back to Boston for a harbor on account of the lack of an efficient fog-signal at Salem.

Many vessels enter and leave Salem Harbor with cargoes and for refuge. Considerable commerce is carried in tow barges along the coast as far as Portsmouth and Portland. These barges frequently seek a harbor here upon very short notice when the fogs or thick snowstorms come up, which are so prevalent on the New England coast north of Cape Cod. Salem outer harbor is capacious, and is sheltered, in a measure, by Cape Ann, from northeasters, the prevalent winter storms. A large number of ledges border its approach. The range of the fog-bell is very short. It is estimated that a steam fog-signal could be established at Baker Island light-station at a cost of $10,000, and the Board recommends that an appropriation of that amount be made therefor.

100. Fort Pickering, Winter Island, Salem Harbor, Massachusetts.—The bridge across the moat, carried away by the ice, was rebuilt. Minor repairs were made.

103. Egg Rock, off Nahant, Mass.—A boat winch was provided.

109. The Graves, entrance to Boston Harbor, Massachusetts.—The act approved on March 3, 1904, authorized the construction of this light-house and fog-signal at a total cost of $188,000, and appropriated $75,000 therefor. The balance, $113,000, was appropriated by the act approved on April 28, 1904. On September 15, 1902, the construction of the station was authorized by direct hire of labor, and the purchase of materials of the lowest bidder. The structure is to be a granite tower 30 feet 3 inches in diameter at the base, 88 feet in height to the surface of the deck, and consisting of 44 courses containing 882 stones. The first stones were landed on the ledge and the setting of them was commenced on August 11, 1903, and continued to October 31, 1903, when work was suspended for the winter, 21 courses having been set, carrying the tower to a height of 42 feet. The two cisterns were carried up with the tower, and the concrete backing was put in. During the winter of 1903–4 the temporary plant was cared for, and, when the weather permitted, the work of cutting the stones was carried on at the contractor's quarries at Rockport, Mass. The interior ironwork and the landing ladder were made in the Board's Boston machine shop, and the interior woodwork was made in the Board's Portland storehouse. Contracts were made for enameled bricks for the lining of the tower and for a composition lantern, lantern floor, and parapet. The first-order illuminating apparatus is being made in Paris. From the resumption of work in April to June 30, 1904, courses numbered 22 to 44, both inclusive, of the stones for the tower were delivered and set, carrying the tower to the full height of the stonework, 88 feet. The enameled bricks for the interior lining of the tower were delivered and their setting was begun. The drilling of holes in the ledge for the landing pier is in progress.

110, 111. Lovells Island range, entrance to Boston Harbor, Massachusetts.—Plank walks were laid between the dwelling and both towers. Lightning rods were put on the towers.

—. *State Ledge, Boston Harbor, Massachusetts.*—The following recommendation, which was made in the last thirteen annual reports of the Board, is renewed:

> The ship channel from the Boston wharves to Nix Mate Buoy has no aids to navigation except buoys. Vessels find it very difficult in thick weather and at night to keep in the channel, and they are particularly perplexed to know just where to turn in the neighborhood of State Ledge and buoy No. 8, both in leaving and entering the harbor. Large excursion steamers, as well as steamers of the regular lines running out of Boston, frequently have to anchor in thick weather solely because they have no guide between Nix Mate buoy and the wharves. This greatly incommodes business men going and coming during the summer months, when fogs are prevalent. The Board has recognized for a long time the necessity for a light and fog-signal at this point, but has postponed action while the improvements in the channel of the harbor in charge of the United States engineers were in progress. The Board is of opinion that the time has arrived when a light and fog-signal ought to be established near buoy No. 8, or at or near State Ledge. It is estimated that it will cost $42,000 to establish a light and fog-signal at this point.

The following extract from the Board's last annual report is renewed:

> It is recommended that an appropriation of this amount be made therefor.
>
> Owing to the recent rise in the cost of materials and labor, the construction of this station will cost more now than when the estimate of $42,000 was made, fourteen years ago. The amount of the estimate should be increased from $42,000 to $52,000, and it is recommended that an appropriation of the latter amount be made therefor.

114–115. Broad Sound Channel range, Spectacle Island, Boston Harbor, Massachusetts.—A brick oilhouse was built and lightning rods were put on both towers. The color of the towers was changed from red to white.

120–121. Spectacle Island range, Spectacle Island, Boston Harbor, Massachusetts.—Both towers were moved about 15 feet in a southerly direction parallel with their former position, and provided with masonry foundations and lightning rods. The color of the towers was changed from white to lower third white, middle third red, and upper third white.

125. Minots Ledge, on the Outer Minot, one of the Cohasset rocks, Massachusetts Bay, entrance to Boston Bay, Massachusetts.—A new fog bell striking machine was installed, and the assistant's dwelling improved and protected. Part of the boat slip displaced by ice was put back in place, and the boat slip itself was extended seaward about 15 feet.

132. Scituate Breakwater, entrance to Scituate Harbor, Massachusetts Bay, Massachusetts.—The light-spindle and the two beacons in the harbor, which had been carried away by ice, were reset.

133–134. Plymouth range (Gurnet), entrance to Plymouth, Kingston, and Duxbury harbors, Massachusetts.—The boundary fence was rebuilt, and the dwelling was repaired.

136. Race Point, entrance to Cape Cod Bay, Massachusetts.—The principal keeper's dwelling was improved and protected; a new fog-signal boiler was put in; the fog-signal plant was overhauled, and various repairs were made.

137. Wood End, entrance to Provincetown Harbor, Cape Cod Bay, Massachusetts.—The plank walks were renewed. Various repairs were made.

138. Long Point, entrance to Providencetown Harbor, Cape Cod Bay, Massachusetts.—A brick oilhouse was built.

140. Billingsgate Island, entrance to Wellfleet Harbor, Cape Cod, Massachusetts.—An outside course of bricks was built around the light-tower, a brick oilhouse built, and the dwelling repaired.

159. Brant Point, entrance to Nantucket Harbor, Massachusetts.—A brick oilhouse was built.

160–161. Nantucket Cliff range, northerly side of Nantucket Island, Massachusetts.—The two light-towers and the dwelling were improved and protected, the boundary fence was rebuilt, and plank walks were laid between all the buildings. A brick oilhouse was built. The roof of the front tower was modified and the reflector raised 2 feet. Various repairs were made.

167–168. Hyannis, Nantucket Sound, Massachusetts.—The wooden deck and brick parapet of the light-tower were replaced by an iron deck and wooden parapet.

171. Cape Poge, Nantucket Sound, Massachusetts.—The pedestal in the tower was leveled, the boundary fence was rebuilt, and a fence was built along the front of the light-house land.

176. West Chop, entrance to Vineyard Sound, Massachusetts.—A new fog-signal boiler was provided and installed, and the fog-signal plant overhauled.

184. Cuttyhunk, entrance to Buzzards Bay, Massachusetts.—A boundary fence was built. Minor repairs were made.

REPAIRS.

Repairs more or less extensive were made at the following-named stations:

83–84. Salisbury Beach, Mass.
88–89. Ipswich Range, Mass.
92–93. Cape Ann, Mass.
97–98. Baker Island, Mass.
116. Deer Island, Mass.
117. Long Island Head, Mass.
127. Boston, Mass.
130. Narrows, Boston Harbor, Mass.
135. Duxbury Pier, Mass.
141. Sandy Neck, Mass.
142. Cape Cod, Mass.
156. Sankaty Head, Mass.
158. Gay Head, Mass.
166. Bishop and Clerks, Mass.
172. Edgartown, Mass.
175. East Chop, Mass.
177. Nobska Point, Mass.
179. Grassy Island Ledge beacon, Mass.
180. Middle Ledge beacon, Mass.
181. Tarpaulin Cove, Mass.
185. Dumpling Rock, Mass.
186. Butler Flats, Mass.
187. Palmer Island, Mass.
190. Bird Island, Mass.
191. Wings Neck, Mass.

DAY AND UNLIGHTED BEACONS.

These are now, with a few exceptions, in good order. No new beacons have been established during the year.

LIGHT-VESSELS.

124. Boston light-vessel, No. 54, Boston Bay, entrance to Boston Harbor, Massachusetts (about 6 miles E. ½ S. from Boston light-house).—This vessel was built of steel, in 1892, is of 490 tons displacement, has a steam fog-signal, and is self-propelled. She was

relieved by relief light-vessel No. 58 on May 8, 1904, and steamed in to Boston. She received needed fitments and repairs.

148. Pollock Rip Shoals light-vessel, No. 73, northward of the Pollock Rip Slue, entrance to Nantucket Sound, Massachusetts.—This steel, steam, self-propelled vessel was built in 1901, is of 538 tons gross burden, and has a steam fog-signal. On May 7, 1904, upon being relieved by relief light-vessel No. 58, she went to Boston for repairs, after which she steamed to her station. She received needed fitments, supplies, and repairs.

150. Pollock Rip light-vessel, No. 47, off Chatham, Cape Cod, Massachusetts.—This composite vessel of about 410 tons displacement was built, with a steam fog-signal, in 1891. On November 9, 1903, a schooner collided with this light-vessel, but, aside from roughing up the copper, the damage received was slight. On December 18, 1903, three barges, in tow of tug *Swatara*, of the Philadelphia and Reading Coal and Iron Company, collided with this light-vessel and inflicted much damage, which was repaired when the vessel came in, in February, 1904. The coal and iron company paid for repairing the damages inflicted. On January 3, 1904, she parted her moorings, between the bridle and the next shackle, and drifted about three-fourths of a mile to the south-southwest of her station, where she was anchored. She was replaced on the 6th on her station by the tender *Azalea*. On February 16, 1904, she was relieved by relief light-vessel No. 58, and brought in for additional repairs, upon the completion of which, on March 16, 1904, she resumed her station. On June 9, 1904, she was relieved by light-vessel No. 58. She resumed her station on June 24, and relief light-vessel No. 58 was withdrawn. During the year she received needed fitments and proper repairs.

152. Shovelful Shoal light-vessel, No. 3, off Monomoy Point, Cape Cod, Massachusetts.—This wooden vessel, of about 140 tons gross burden, was built in 1853, and has a bell for fog-signal. On January 8, 1904, a four-masted schooner collided with this vessel and inflicted much damage. This damage was repaired on the station, and the owners of the schooner paid the bills. On May 28 this light-vessel was relieved by relief light-vessel No. 9, after which, on June 8, 1904, she resumed her station. During the year she received needed fitments and proper repairs.

153. Handkerchief light-vessel No. 4, Nantucket Sound, Massachusetts.—This wooden vessel, of about 104 tons gross burden, was built in 1855, and has a bell for fog-signal. On May 19, 1904, she was relieved by relief light-vessel No. 9. On May 27 she returned to her station. During the year she was supplied with needed fitments and proper repairs.

154. Great Round Shoal light-vessel, No. 42, off Nantucket, Massachusetts.—This wooden vessel, of about 410 tons gross burden, with a compressed-air fog-signal, was built in 1877. She remained on her station during the entire year. She was supplied with needed fitments and proper repairs.

157. Nantucket Shoals light-vessel, No. 66, about 41 miles to the southward and eastward of Nantucket, Mass.—This composite ship was built in 1895–96. She is a screw steamer of about 530 tons displacement, and had a steam fog-signal and electric lens lantern at her fore and main mastheads. On December 15, 1903, she was

relieved by light-vessel No. 58, when she steamed from her station to New Bedford for coal. On January 5, 1904, she resumed her station, and light-vessel No. 58 was withdrawn. On March 28, upon being relieved by light-vessel No. 58, she again came to New Bedford for coal and water. She resumed her station on April 4, having received needed stores and fitments. She received various repairs during the year.

169. Cross Rip light-vessel, No. 5, Nantucket Sound, Massachusetts.—This wooden vessel of about 130 tons burden, new measurement, was built in 1864, and has a bell for fog-signal. On July 25, 1903, she was run into by the barge *Buttress*, in tow of the "B" Line Transportation Company, and was somewhat damaged. This damage was repaired without taking the vessel in, and the transportation company paid the bills. On August 7 the barge *Parks*, belonging to the Staples Coal Company, of Taunton, collided with this light-vessel. The damage was repaired on station, and the coal company paid the bills. On January 5, 1904, she was dragged from her station about 250 yards, by heavy ice, and was replaced on January 8, 1904. In February she was twice dragged by ice a short distance from her station, and replaced by the tender. On April 30 she was relieved by relief light-vessel No. 9 and towed to New Bedford. She resumed her station on May 7, 1904. She received during the year needed fitments and proper repairs.

170. Succonnesset Shoal light-vessel, No. 6, Nantucket Sound, Massachusetts.—The date when this wooden vessel was built is unknown, but she was thoroughly repaired in 1890. She is of about 140 tons gross burden, and has a bell for fog-signal. On May 8, 1904, she was relieved by relief light-vessel No. 9 and brought to New Bedford. On May 18 she resumed her station. She was supplied during the year with needed fitments and proper repairs.

182. Vineyard Sound light-vessel, No 41, western entrance to Vineyard Sound, Massachusetts.—This wooden vessel, of about 387 tons burden, old measurement, was built in 1876, and has a steam fog-signal. On May 28 the tug *Aaron M. Bangs*, with three scows in tow, in attempting to cross the ship's bow, collided with the vessel. The damage inflicted will soon be repaired, and the bill therefor will be paid by the owners of the tug. This light-vessel remained on her station the entire year. She received needed fitments and proper repairs.

183. Hen and Chickens light-vessel, No. 2, entrance to Buzzards Bay, Massachusetts.—This wooden vessel was built in 1849, and is of about 120 tons burden, new measurement, with a bell for a fog-signal. She remained on her station during the entire year. She received needed fitments and proper repairs.

—. *Relief light-vessel No. 9.*—This wooden vessel was built in 1867, is of about 103 tons burden, new measurement, and has a bell for fog signal. She was on Cross Rip light-vessel station from April 30 to May 7, on Succonnesset Shoal light-station from May 8 to May 18, on Handkerchief station from May 19 to May 27, and on Shovelful Shoal station from May 28 to June 8, 1904.

—. *Relief light-vessel No. 58.*—This iron vessel was built in 1894, is of about 491 tons displacement, has an electric-lighting plant, a steam fog-signal, and is self-propelled. On October 8, 1903, she returned

to Boston from duty in the First light-house district. An electric-lighting plant was installed on her. She steamed to New Bedford on December 5, 1903, and on the 15th relieved Nantucket Shoals light-vessel, No. 66, remaining on that station until January 5, 1904. Upon the return of light-vessel No. 66 she steamed to New Bedford. On February 16 she relieved Pollock Rip light-vessel, No. 47, remaining until March 16, when light-vessel 47 resumed her station. On March 25 she again relieved Nantucket Shoals light-vessel No. 66, and remained until April 4 on that station. On April 30, 1904, she relieved Pollock Rip Shoals light-vessel, No. 73, until the return of that vessel on May 7, when she proceeded to Boston light-vessel, No. 54, station, relieving that vessel from May 8 to May 19, 1904. Light-vessel No. 58 then came in to Boston, where she was repaired. On June 8 she proceeded from Boston to Pollock Rip light-vessel, No. 47, station, relieving that vessel on June 9, 1904. On June 24 light-vessel No. 47 returning to her station, light-vessel No. 58 was withdrawn and proceeded to New Bedford, where she took on coal and water, and left on June 30, 1904, for Nantucket Shoals station, to relieve light-vessel No. 66. She was supplied during the year with needed fitments and proper repairs.

—. *Hedge Fence Shoal light-vessel, near the eastern end of Hedge Fence Shoal, entrance to Vineyard Sound, Massachusetts.*—The following is a copy of a letter dated December 14, 1903, from the Secretary of Commerce and Labor to the Secretary of the Treasury:

This Department, at the instance of the Light-House Board, has the honor to recommend that an appropriation of $100,000 be made for the establishment of a light-vessel near the eastern end of Hedge Fence Shoal, at the entrance to Vineyard Sound, Massachusetts.

The Boston Chamber of Commerce, in its letter of October 21, 1903, asks that this light-vessel be established, stating that "for many years it has been earnestly desired by all shipping interests availing themselves of the route through Vineyard Sound, and the necessity for it has increased with the increase of traffic, both in number and size of vessels." The chamber of commerce further states that "It is 14½ miles from the Cross Rip light-vessel to the light at West Chop, Marthas Vineyard, and in weather at all thick the approach to Hedge Fence Shoal from the east is exceedingly dangerous, so much so that steamers and large vessels usually anchor and wait for a change in conditions. The depth of water in the approach to Hedge Fence Shoal is such that little or no indication is given of its proximity until a vessel is practically upon the shoal. It is easily the most dangerous spot, so far as lack of aids to navigation is concerned, in the entire route from Pollock Rip through the sound."

The inspector of the Second light-house district, Commander C. W. Bartlett, U. S. Navy, in his letter of October 26, 1903, states: "I consider that this light-vessel would be a great aid to navigation, as this is a thoroughfare which is used by the greater part of the shipping from Boston bound south, and is used in all kinds of weather, especially by passenger steamers."

FOG SIGNALS OPERATED BY STEAM OR HOT-AIR ENGINES.

92 and 93. Cape Ann, Massachusetts.—This 10-inch steam whistle was in operation 743 hours, and consumed about 58 tons of coal. The fog-signal plant consists of locomotive-type boilers, Crosby automatic clocks and whistle valves, and 10-inch whistles, all in duplicate. They run with 55 pounds pressure, 81 cubic feet of steam being used a second of blast.

94. Eastern Point, Massachusetts.—This 4,000-pound fog bell was in operation 465 hours, and 556 gallons of mineral oil were used by

the engine. The old Shipman engines which operated the fog bell were replaced by two 2½-horsepower oil engines, and a cistern for storing rain water was provided.

124. Boston light-vessel, No. 54, Massachusetts.—This 12-inch chime whistle was in operation some 637 hours, and consumed about 124 tons of coal, besides which, for heating ship, etc., 11 tons in addition was used, making a total of 135 tons consumed.

127. Boston, Mass.—This first-class steam siren was in operation 830 hours, and consumed 44 tons of coal. This fog-signal plant consists of locomotive-type boilers, steam siren engines, and first-class sirens, all in duplicate. They use 55 pounds pressure and 60 cubic feet of steam a second of blast.

136. Race Point, Massachusetts.—This 12-inch steam whistle was in operation 666 hours, and consumed 32 tons of coal. This fog-signal plant consists of locomotive-type boilers, improved automatic clocks and whistle valves, all in duplicate, with one 10-inch and one 12-inch whistle. They use 55 pounds pressure and 64 cubic feet of steam for a second of blast.

142. Cape Cod, Massachusetts.—This first-class Daboll trumpet was in operation 961 hours, and 485 gallons of mineral oil was used by the engine. This fog-signal plant consists of 4-horsepower oil engines, air compressors, and air tanks, all in duplicate, and a first-class Daboll trumpet. They use 5 pounds pressure and 5.2 cubic feet of free air a second of blast.

148. Pollock Rip Shoals light-vessel, No. 73, Massachusetts.—This 12-inch steam chime whistle was in operation some 995 hours, and consumed about 195 tons of coal, besides, for heating ship, etc., 13 tons in addition was used, making a total of about 208 tons consumed.

150. Pollock Rip light-vessel, No. 47, Massachusetts.—This 12-inch steam chime whistle was in operation some 756 hours, and consumed about 99 tons of coal, besides, for heating ship, etc., 11 tons in addition was used, making a total of 110 tons consumed.

154. Great Round Shoal light-vessel, No. 42, Massachusetts.—This 10-inch whistle, actuated by compressed air, was in operation some 996 hours, and about 4,036 gallons of mineral oil was used by the engine.

157. Nantucket Shoals light-vessel, No. 66, Massachusetts.—This 12-inch steam whistle was in operation about 921 hours, and some 218 tons of coal was consumed, besides, for heating ship, dynamo, and main engine, 343 tons in addition was used, making a total of, say, 561 tons consumed.

176. West Chop, Massachusetts.—This 10-inch steam whistle was in operation some 863 hours, and consumed about 49 tons of coal. This fog-signal plant consists of two locomotive-type boilers, steam engines, and two 10-inch whistles. They use 55 pounds pressure and 77 cubic feet of steam a second of blast.

182. Vineyard Sound light-vessel, No. 41, Massachusetts.—This 12-inch steam whistle was in operation some 809 hours, and consumed about 79 tons of coal, besides which, for heating ship, etc., some 14 tons in addition was used, making a total of, say, 93 tons consumed.

185. Dumpling Rock, Massachusetts.—This first-class Daboll trumpet was in operation some 746 hours, and about 653 gallons of mineral oil was used by the engine. This fog-signal plant consists of 4-horse-

power oil engines, air compressors, and air tanks, all in duplicate, and a first-class Daboll trumpet. They use 5 pounds pressure and 2.63 cubic feet of free air a second of blast.

—. *Relief light-vessel, No. 58, Massachusetts.*—This 12-inch steam whistle was in operation about 325 hours and consumed some 146 tons of coal, besides which, for heating ship and main engine, 78 tons in addition were used, making a total of, say, 224 tons consumed.

BUOYAGE.

The buoyage of this district is in fairly good order.

OILHOUSES.

During the year oilhouses were built at Ipswich, Broad Sound Channel Range, Long Point, Billingsgate Island, Brand Point, and Nantucket Cliff Range light-stations.

LIGHT-HOUSE DEPOTS.

Lovells Island, Boston Harbor, Massachusetts.—This depot, used for storage of buoys and appendages, light-vessel chain, fuel, oil, and supplies for use in the northern part of the district, from Provincetown to Newburyport, Mass., is in a deplorable condition. The wharf is not safe, and the coal shed is more or less unserviceable, the floors being undermined by heavy extra high tides, and are falling in.

The act approved on June 28, 1902, appropriated $25,000 for establishing a light-house depot for the Second light-house district at Castle Island. The act of February 24, 1903, repealed the act of June 28, 1902, and provided that the Secretary of the Treasury be authorized and directed to locate and establish a light-house depot for the Second light-house district in Boston Harbor, Massachusetts, on land owned by the United States, at a cost not to exceed $25,000. The act approved on February 24, 1903, which authorized and directed the establishment of this light-house depot at a cost not to exceed $25,000, made no appropriation for that purpose. The Secretary of the Treasury has not yet located the site on land belonging to the United States, as directed by this act. Extended repairs and improvements are required at the Lovells Island light-house depot, and it is estimated that it would cost $11,500 to put it in good condition; but this site must soon be abandoned, it being required by the War Department.

The following recommendation, made in the Board's last annual report, is renewed:

Lovells Island light-house depot is in a more or less unserviceable condition. The need for a proper place to store the buoys and accessories to relieve the floating aids to navigation in Boston Harbor is great, and it is becoming greater day by day. When the possession of Lovells Island depot, which is now partly out of use, is entirely resumed by the War Department, the Board will have no place to store buoys, mooring tackle for its light-vessels, oil and other supplies for its light-houses in the Second light-house district, except at Woods Hole depot, which is so far distant from Boston that it will make the keeping of the aids to navigation in Boston Harbor and Boston Bay exceedingly difficult. The large commerce going in and out of Boston will feel to a great extent this lack of facilities on the part of the Light-House Board. The Board

therefore recommends that the proper measures be taken to locate a site for a light-house depot in Boston Harbor and that due appropriation be made for its establishment.

It is impracticable for the Board at this time to submit an estimate of the cost of the establishment of such a depot, as its site has not yet been decided upon, and upon the position of the site, as to its relation to deep water, to which a pier will have to be built, will largely depend the amount of the appropriation required.

Woods Hole, Mass.—This depot is used to supply the southern part of the district, which is embraced between Cape Cod and the western end of Buzzards Bay. The articles kept on hand include buoys and appendages, fuel, oil, anchors, light-vessel chains, supplies of paint, and miscellaneous articles, for issue to light-vessels, tenders, and stations.

TENDERS.

Mayflower.—This steel screw steamer was built in 1897, and is of about 572 tons gross burden. She was employed during the year, with the exception of 22 days when she was laid up for repairs. She has changed or replaced 549 buoys, painted 95 buoys and 29 beacons, marked 2 wrecks, delivered to light-vessels or stations 506 tons of coal and 41 cords of wood, besides 109 loads of rations and supplies. She was employed 23 days at the buoy depot. During the year she steamed about 10,547 miles and consumed some 1,450 tons of coal. On November 2, 1903, she proceeded to the general light-house depot at Tompkinsville, N. Y., returning with a load of buoys and supplies for the district. She received needed fitments and proper supplies.

Azalea.—This steel screw steamer was built in 1891, and is of 422.81 ton displacement. She was employed during the year, with the exception of 36 days, when under repair. She changed or replaced 139 buoys, painted 88 buoys, delivered 618 tons of coal and 226 loads of rations and supplies to light-vessels and stations. She was employed 67 days at the buoy depot. During the year she steamed about 13,232 miles and consumed some 1,148 tons of coal. She received needed supplies and fitments.

Verbena.—This wooden, side-wheel steamer was built in 1870, and is of about 294 tons gross burden. She was employed during the year, except 35 days when under repairs. She changed and replaced 319 buoys, painted 119 buoys and 6 beacons, delivered 201 tons of coal and 49 cords of wood, also 164 loads of rations and supplies to light-vessels and stations. She was employed 31 days at the light-house depot. During the year she steamed about 7,399 miles and consumed some 809 tons of coal. She received needed fitments and proper repairs.

Myrtle.—This wooden screw steamer was built in 1872, and is of about 348 tons gross burden. She steamed about 8,292 miles and consumed some 722 tons of coal, and, except when laid up for repairs, was continuously occupied in delivering material at stations. She received needed fitments, supplies, and proper repairs.

THIRD DISTRICT.

This district extends from Elisha Ledge, off Warren Point, Rhode Island, to a point on the coast of New Jersey, opposite Shrewsbury Rocks, and includes the ledge and the rocks. It comprises all aids to navigation on the coast of Rhode Island, Connecticut, and New York, and of New Jersey northward to the point opposite Shrewsbury Rocks, and all tidal waters tributary to the sea or Long Island Sound between the limits named, together with the aids on Whitehall Narrows and on the United States waters of Lakes Champlain and Memphremagog.

It also includes the light-house service of Porto Rico and the adjacent islands; the waters of the islands lying east of the seventy-fourth meridian of longitude west of Greenwich, which was ceded to the United States by the Government of Spain by treaty entered into on December 10, 1898, and the lighting and buoyage of Guantanamo Bay, Cuba.

Inspector.—Capt. William M. Folger, U. S. Navy, to March 12, 1904; since then, Capt. M. R. S. Mackenzie, U. S. Navy.

Engineer.—Lieut. Col. William T. Rossell, Corps of Engineers, U. S. Army.

There are in this district:

Light-houses and beacon lights, including 102 post lights	283
Light-houses in Porto Rico	24
Light-vessels in position	7
Light-vessels for relief	3
Day, or unlighted, beacons	45
Fog-signals operated by caloric or oil engines	30
Fog-signals operated by clockwork	60
Gas-lighted buoys	27
Whistling buoys in position	9
Bell buoys in position	35
Other buoys in position	669
Steamer *Armeria*, used for supplying the light-stations of the Atlantic and Gulf coasts	1
Steamers *Larkspur*, *John Rodgers*, and *Cactus*, buoy tenders, and for supply and inspection of light-stations	3
Steamer *Gardenia*, buoy tender, and for freight	1
Steamers *Mistletoe* and *Iris*, used for works of construction and repair of light-stations, fog-signals, and day beacons	2
Steam launch *Daisy*, for supply and inspection of lights and buoy service on Lake Champlain, and for light freight and work in New York Bay	1
Steam launch *Nettle*, for work of construction and repair on Lake Champlain	1

LIGHT-STATIONS.

203. Hog Island Shoal, entrance to Mount Hope Bay, Narragansett Bay, Rhode Island.—On September 15, 1903, the fifth-order lens was replaced by a fourth-order lens apparatus, and the dark sector in the light discontinued. This light now shows fixed white. Minor repairs were made.

205. Bristol Ferry, entrance to Mount Hope Bay, Narragansett Bay, Rhode Island.—A brick oilhouse was built.

210. Plum Beach, Rhode Island.—The following recommendation made in the Board's last five annual reports is renewed:

It is estimated that a fog-signal could be established at a cost of $1,343, and it is recommended that an appropriation of this amount be made therefor.

214. Warwick, Narragansett Bay, Rhode Island.—A duplicate 2-horsepower oil engine was installed. Various repairs were made.

224. Block Island North, Block Island Sound, Rhode Island.—A survey was made of the site of the light-house. Various repairs were made.

231. Montauk Point, extreme easterly end of Long Island, New York.—The old fog-signal plant was removed and replaced by two 13-horsepower oil engines with air compressors attached and a first-class siren. On October 13, 1903, the first-class siren was changed to sound a louder tone of a somewhat different pitch, without other change. Various repairs were made.

233. Stonington Breakwater, Connecticut.—The following recommendation made in the Board's last two annual reports is renewed:

The following is a copy of a letter dated December 7, 1901, from the Secretary of the Treasury to the Speaker of the House of Representatives:

"This Department has the honor to state at the instance of the Light-House Board that a recent inspection of the Stonington Breakwater, Connecticut. light-station has shown that its keeper's dwelling is in a condition so unhealthful as to menace the lives of its occupants, there having been more or less sickness in every family residing therein during the past twenty years. The house is very old, no work has been done on it for a long time, it is past economical repair, and it is in such a condition of deterioration as to make it almost uninhabitable. The Board at its session on November 4, 1901, considered the question of remedying this unsanitary condition, and concluded that the dwelling is past economical repair and that the erection of a small modern dwelling for the keeper is therefore an urgent necessity. It is estimated that such a dwelling can be built for a cost not exceeding $6,000.

"This Department concurs with the Light-House Board as to the necessity for providing this keeper's dwelling at the Stonington Breakwater, Connecticut, light-station, and recommends that an appropriation of $6,000 be made therefor."

236. Morgan Point, Fishers Island Sound, Long Island Sound, Connecticut.—A brick oilhouse was built. Various repairs were made.

239. New London Harbor, Long Island Sound, Connecticut.—The installation of the new fog-signal plant was completed. The old fog-signal house was moved from the old site to the north side of the new engine house and converted into a workshop. The old oil engines were disconnected and removed to the light-house depot. A coal shed was built. Various repairs were made.

267. Greenport Harbor beacon, Long Island Sound, New York.—The beacon light was changed from a post lantern to a lens lantern. Various repairs were made.

336. Eatons Neck, Huntington Bay, Long Island Sound, New York.—A brick engine house was built and two 13-horsepower oil engines were installed with air compressors on the same bedplate. A first-class automatic siren was also installed, operated by compressed air, sounding blasts of four seconds duration separated by silent intervals of forty seconds. Various repairs were made.

344. Jones Rock beacon, entrance to Captain Harbor, Long Island Sound, Connecticut.—On December 21, 1903, the intensity of this fixed white light was increased by changing it to a lens-lantern light and by substituting acetylene gas for oil by the installation of an acetylene-gas plant.

346. Glencove Breakwater beacon, entrance to Hempstead Harbor, Long Island Sound, New York.—An oilhouse was built.

—. *Hunts Point, East River, New York.*—The following is a copy of a letter dated March 5, 1902, from the Secretary of the Treasury to the Speaker of the House of Representatives:

This Department has the honor to state, at the instance of the Light-House Board, that the interests of commerce plying through the East River and Long Island Sound demand the establishment of a light and fog-signal at Hunts Point, New York.

This point of land is situated between Hell Gate and Whitestone, N. Y., extends for a considerable distance into East River, and is dangerously deceiving to navigators at night and during foggy weather. Vessels are now, in approaching New York, often obliged to remain to the eastward of this point to await the clearing of fog, in order that they may make with certainty the turn which they must take there preparatory to running to North Brother Island and through Hell Gate. A turn is made at Hunts Point by vessels going either east or west, and it is the point from which all steamers take their departure.

Many large commercial companies have joined in urging that a light and fog-signal be established at Hunts Point, and have submitted to the Light-House Board numerous letters from masters of vessels frequently navigating Long Island Sound, all of which are emphatic in advocating this measure.

The Light-House Board at its session on March 3, 1902, considered this matter, and concluded that a light and fog-signal is much needed at Hunts Point, New York, to protect the important passing commerce, and that these aids to navigation ought to be established. The Board estimates that a site can be purchased and a suitable structure erected thereon provided with the necessary light and fog-signal apparatus at a cost not to exceed $5,000.

This Department concurs with the Board in deeming the establishment of this proposed light and fog-signal necessary, and therefore has the honor to recommend that an appropriation of $5,000 be made therefor.

366. Shinnecock Bay, seacoast of Long Island, New York.—The following is a copy of a letter dated December 6, 1901, from the Secretary of the Treasury to the Speaker of the House of Representatives:

This Department has the honor to state, at the instance of the Light-House Board, that the present fixed light at Shinnecock Bay, New York, is at but little greater height than the masthead of a large vessel, and being in the track of vessels bound east and west the light from its low position, as seen from seaward, may easily be taken for the light of a fishing vessel or other craft, thereby causing confusion and leading to possible disaster.

It is obviously desirable that incoming trans-Atlantic steamers shall run at high speed as long as possible, and it is therefore imperative that the means for fixing position after a run in thick weather shall be as definite and prompt as practicable.

The Light-House Board, at its session on November 4, 1901, considered the question of changing the characteristic of the light at Shinnecock, New York, light-station, when it decided, in view of the fact that incoming trans-Atlantic vessels now make Shinnecock and not Fire Island, after sighting Nantucket Shoals light-vessel, that there ought to be substituted a third-order lens of three flash panels, separated each from the other by intervals of 5 seconds and the group by an interval of 15 seconds, the proposed light to be electric, with a power of more than 200,000 candles. The proposed change in the characteristic of this light is urgently recommended by the leading trans-Atlantic lines as being greatly to the interests of safe navigation in the approaches to New York Harbor. It is estimated that a suitable third order electric revolving lens with all accessories can be provided, including the necessary electric plant, engines, power house, etc., and placed in position, for a cost not to exceed $25,000.

This Department concurs with the Light-House Board in deeming it necessary to make these improvements in the light at Shinnecock Bay, New York, and recommends than an appropriation of this amount be made therefor.

399. Waackaack, New Jersey.—The following recommendation, made in the Board's last four annual reports, is renewed:

The present quarters for the light-keepers are inadequate. Recommendation was made in annual reports of 1896, 1897, 1898, and 1899 that either an addition to the old dwelling or new quarters be built. The Board is now of opinion that new quarters should be provided. It is estimated that this can be done for not exceeding $3,500, and it is recommended that an appropriation of this amount be made therefor.

—. *Blackwells Island Reef post light, New York.*—A spindle with lantern crane, etc., was prepared at the light-house depot for the establishment of this light. A contract was made for setting a spindle here, and the work was completed. The light was shown on April 25, 1904, for the first time.

372. Canarsie Dike beacon, Jamaica Bay, New York.—A new lamp house was set on a new platform. A new post eight-day lantern was delivered, and the two old lanterns were taken to the light-house depot.

373–374. Navesink, northerly and southerly, entrance to New York Bay, New Jersey.—A survey was made of the reservation and Government road. Two brass cylinder monuments were established within the reservation for reference. A flag pole with fittings was erected on the main building. Various repairs were made.

395. South Hook beacon, front range, entrance to New York Bay, New Jersey.—An acetylene-gas plant was installed to take the place of oil lamps at this station. The location of the ascetylene-gas tank, reducing valve, and pressure gauge was changed to the exterior of the tower, and the reducing valve and gauge were inclosed in a protective wooden box. The tank of acetylene gas was replaced by a tank containing purer gas at two different times. The carbonized burner was replaced and later a triple burner put in its place.

396. North Hook beacon, entrance to New York Bay, New Jersey.—An air pressure illuminating apparatus, comprising 2 tanks, 2 burners, 25 chimneys, and 1 dozen wicks, was installed. The change was made on February 2, 1904, when the intensity of the light was increased. The work of erecting a new fog-signal plant was started. The walls of the fog-signal house were completed and the roof was placed. Engines were set up.

398. Point Comfort, Sandy Hook Bay, New Jersey.—About 400 tons of riprap stone were delivered by contract and deposited so as to extend the westerly jetty 30 feet inland to the reservation fence line, also to extend and rebuild the seaward end of the same jetty. The work was completed on June 16, 1904. Various repairs were made.

406. Romer Shoal, New York Lower Bay, New York.—The fog bell was moved to the southerly side of the watch-room deck. The fog-bell machine was housed over in its new position, and the weight chain inside and outside of tower was boxed in. Various repairs were made. The work of depositing by contract 600 tons of riprap on the northerly side of the foundation and landing pier was started on May 26 and completed on June 4, 1904.

408. Elm Tree beacon front range, New York Lower Bay, New York.—A contract was made for rebuilding the bulkhead here. Work was begun on December 28, 1903.

414. Fort Wadsworth, The Narrows, New York Bay, New York.—Contract was made for moving, erecting, and remodeling the keeper's quarters here. The contractor started work on October 19, 1903. The work is now nearly finished.

—. *Ambrose channel, New York.*—The following is a copy of a letter dated January 13, 1904, from the Secretary of Commerce and Labor to the Secretary of the Treasury:

The work being done by the Corps of Engineers, United States Army, in opening the Ambrose channel, New York Harbor, having progressed to such a point as to make it necessary that proper steps be taken for lighting the channel so it can be used by the vessels for which it is being cut, this Department, at the instance of the Light-House Board, has the honor to recommend that the proper measures be taken to obtain appropriations as follows:

To establish a light-vessel with fog signal about a mile to the eastward of the east entrance of the east channel and on its axis $90,000
For a light-house at the intersection of the axis of the east channel and the west edge of it, to form a range 125,000
To establish a tank light-vessel at the junction of the east and main ship channels 15,000

It is desirable that these appropriations be made as soon as practicable, as plans and specifications must be made for these aids to navigation after the passage of the bills making appropriations for them.

In the act approved on April 28, 1904, appears the following:

Detailed estimates shall be submitted to Congress at its next session for a complete system of lighting Ambrose channel, including the number and character of lights required and the cost of each.

The Board therefore submits the following estimates:

A light-vessel with fog signal about a mile to the eastward of the east entrance of the east channel $90,000
For a light-house at the intersection of the east channel and the west edge of it, to form a range 125,000
To establish a tank light-vessel at the junction of the east and main ship channels 15,000

421. Lower Rocky Point beacon, No. 2, junction of the Navesink and Shrewsbury rivers, New Jersey.—A new dolphin was erected.

434. Corner Stake, Newark Bay, New Jersey.—The installation of the acetylene-gas plant to take the place of oil lamps here was completed in December, 1903. The two acetylene-gas tanks were replaced in February by two others containing purer gas. A new burner was fitted for the acetylene light.

437. Jeffreys Hook post light, Hudson River, New York.—Permission has been obtained from the department of public parks of New York City to occupy the necessary site for a fog signal and a more powerful light, which are urgently needed at this point. The estimated cost of establishing the proposed light and fog signal is $1,400.

The following recommendation, which was made in the Board's last nine annual reports, is renewed:

A larger light and a fog bell here would be valuable aids to navigation. The point extends well out into the river, with deep water close to its outer end. The usual route of steamers passing up or down the river is close to the point. The present post light should be replaced by a new structure, upon which should be the lantern with the bell below.

It is estimated that these can be established for not exceeding $1,400, and it is recommended that an appropriation of this amount be made therefor.

442. Iona Island post light, Hudson River, New York.—The following recommendation, made in the Board's last eight annual reports, is renewed:

The post light at this station is of no service during thick weather. A fog signal is needed during fog, in addition to the light, by the important commerce of this river. It is estimated that a fog signal can be established here for a sum not exceeding $1,200, and it is recommended that an appropriation of this amount be made therefor.

453. Saugerties, Hudson River, New York.—Contract was made for repairing the foundation piling here. The work consisted of driving a row of piling outside of the old damaged piling, securing the piles with an inside and outside waling strip, furnishing stone to fill in behind the piles and up to the pile tops, and furnishing tie bars to anchor the waling strip to the stone pier of the light-house. The work was begun on November 24, and on December 9, 1903, was completed.

467. Coxsackie, Hudson River, New York.—Contract was made for the construction of the new ice breaker here. Work was begun in June, 1903. Agreement was made for the delivery of 1,000 tons of riprap, and to place it inside of the ice breaker. About 570 tons were delivered and placed during September. The balance of the stone was delivered in October, and the work of the construction of the ice breaker was continued. The work of erection was, on November 7, 1903, completed.

469. Sand Spit, Hudson River, New York.—The work of erecting the new dolphin was completed on April 18, 1904.

16. Burlington Breakwater north extension pierhead, north end, Lake Champlain, Vermont.—On September 11, 1903, this light was changed from a sixth-order light to a lens-lantern light.

18. Burlington Breakwater south beacon, Lake Champlain, Vermont.—On September 11, 1903, this light was changed from a sixth-order light to a lens-lantern light.

24. Watch Point, Lake Champlain, New York.—Four stone piers were built under the light-house.

PORTO RICO.

1258. Cataño range, San Juan Harbor, Porto Rico, rear.—A new boat landing was constructed. A preliminary survey of the site was made.

1261. Cape San Juan, northeasterly point of the island of Porto Rico.—A boat landing was built. Various repairs were made.

1263. Point Mulas, Vieques, or Crab Island, Porto Rico.—The fence was extended some 400 feet. Various repairs were made.

1264. Port Ferro, Vieques, or Crab Island, Porto Rico.—A new cistern was built. Various repairs were made.

1274. Mona Island, Mona Passage, about 37 miles to the westward of the island of Porto Rico.—A preliminary survey of the reservation and its approaches was made.

REPAIRS.

Repairs, more or less extensive, were made at the following-named stations:

192. Sakonnet, R. I.
194. Beavertail, R. I.
195. Castle Hill, R. I.
197. Lime Rock, R. I.
198. Newport Harbor, R. I.
199. Rose Island, R. I.
200. Gull Rocks, R. I.
201. Gould Island, R. I.
202. Prudence Island, R. I.
204. Muscle Bed Shoals, R. I.
207. Borden Flats, R. I.
208. Whale Rock, R. I.
209. Dutch Island, R. I.
210. Plum Beach, R. I.
211. Wickford Harbor, R. I.
212. Conanicut Island, R. I.
217. Conimicut, R. I.
218. Bullock Point, R. I.
220. Pomham Rocks, R. I.
222. Sassafras Point, R. I.
223. Point Judith, R. I.
227. Block Island (S. E.), R. I.
229. Great Salt Pond Breakwater inner end beacon, R. I.
230. Watch Hill, R. I.
232. Stonington Outer Breakwater beacon, Conn.
233. Stonington Breakwater, Conn.
234. Latimer Reef, N. Y.
237. North Dumpling, N. Y.
259. Race Rock, N. Y.
260. Little Gull Island, N. Y.
262. Plum Island, N. Y.
263. Orient Point, N. Y.
264. Long Beach Bar, N. Y.
265. Cedar Island, N. Y.
268. Saybrook Breakwater, Conn.
269. Saybrook (Lynde Point), Conn.
309. Horton Point, N. Y.
310. Duck Island Breakwater beacon, Conn.
311. Falkner Island, Conn.
313. Southwest Ledge, Conn.
314. New Haven Middle Breakwater east end beacon, Conn.
315. New Haven Middle Breakwater west end beacon, Conn.
316. New Haven Outer Breakwater, Conn.
319. Housatonic River Breakwater beacon, Conn.
320. Stratford Point, Conn.
321. Stratford Shoal (Middle Ground), Conn.
—. Norwalk Island, Conn.
324. Old Field Point, N. Y.
325. Bridgeport Harbor, Conn.
326. Bridgeport Breakwater, Conn.
328. Penfield Reef, Conn.
331. Round Beach, Conn.
332. Fitchs Point, Conn.
333. White Rock Reef, Conn.
334. Long Beach, Conn.
335. Greens Ledge, Conn.
338. Lloyd Harbor, N. Y.
339. Cold Spring Harbor, N. Y.
340. Stamford Harbor, Conn.
343. Great Captain Island, N. Y.
349. Execution Rocks, N. Y.
350. Sands Point, N. Y.
352. Stepping Stones, N. Y.
353. Throgs Neck, N. Y.
354. Whitestone Point post light, N. Y.
358. Oak Bluff post light, N. Y.
359. North Brother Island, N. Y.
363. Hell Gate post light, N. Y.
366. Shinnecock Bay, N. Y.
369. Fire Island, N. Y.
—. Electric Buoy station, N. J.
394. Sandy Hook rear range, N. J.
397. Sandy Hook fog bell, N. J.
403. Conover Beacon front range, N. J.
405. Old Orchard Shoal, N. Y.
407. West Bank, N. Y.
413. Coney Island, N. Y.
416. Robbins Reef, N. Y.
417. Governors Island post light, N. Y.
418. Governors Island east end fog-signal station, N. Y.
423. Northwest Point beacon, No. 2A, N. J.
424. Little Silver beacon, No. 9, N. J.
428. Princess Bay, N. Y.
429. Great Beds, N. Y.
433. Bergen Point, N. J.
435. Passaic, N. J.
438. Tarrytown, N. Y.
439. Rockland Lake, N. Y.
441. Stoney Point, lower, N. Y.
444. West Point, N. Y.
448. Roudout, N. Y.
459. Hudson City, N. Y.
463. Lamphere dock (narrow channel), N. Y.
468. Stuyvesant, N. Y.

LAKE CHAMPLAIN.

4. Windmill Point, Vt.
5. Rouse Point pierhead, N. Y.
6. Isle La Motte, Vt.
7. Pointe aux Roches, N. Y.
10. Cumberland Head, N. Y.
11. Gordon Landing pierhead, Vt.
12. Plattsburg Breakwater (N. E.), N. Y.
14. Bluff Point, N. Y.
19. Juniper Island, Vt.
20. Split Rock, N. Y.
22. Barber Point, N. Y.
23. Crown Point, N. Y.

WHITEHALL NARROWS.

25. No. 1, Old Maid Place, Vt.
26. No. 2, Lower end of Four Channels and Narrows, N. Y.
27. No. 4, Pulpit Point, N. Y.
28. No. 3, Above Pulpit Point, N. Y.
29. No. 5, Opposite Belden dock, Vt.
30. No. 6, Chilson Bend, N. Y.
31. No. 8, Lower end of Two Channels, N. Y.
33. No. 12, Head of Two Channels, N. Y.
34. No. 14, Long Reach, N. Y.
35. No. 16, Steam-Mill Point, N. Y.
36. No. 7, South of Snody dock, Vt.
37. No. 18, Opposite Chapman dock, N. Y.
38. No. 20, Carey Camp, N. Y.
39. No. 9, Benjamin Place, Vt.

PORTO RICO.

1256. Port San Juan, P. R.
1257. Cataño Range, front, P. R.
1259. Anegado Shoal, front, P. R.
1265. Point Tuna, P. R.
1266. Point Figuras, P. R.
1268. Muertos Island, P. R.
1269. Cardona Island, P. R.
1278. Point Borinquen, P. R.
1279. Arecibo, P. R.

DAY OR UNLIGHTED BEACONS.

All the day beacons in the district were painted.

Sugar Reef, Fishers Island Sound, Connecticut (an iron spindle with a conical cage).—The spindle was straightened and a new cage was provided.

Ram Island Reef spindle, Fishers Island Sound, Connecticut (an iron spindle with a round, red cage).—The spindle and cage were repaired.

Groton Long Point Reef beacon, Fishers Island Sound, Connecticut (an iron spindle and a cage in the form of an inverted cone).—A new cage was provided.

Pulpit Rock spindle, on West Ledge, Fishers Island Sound, Connecticut (an iron spindle surmounted by a barrel, on a bowlder).—A new barrel was furnished.

Brantford Reef beacon, Connecticut (a granite tower, with an iron shaft and ball).—The tower was repointed.

Hen and Chickens, near Cornfield Point, Long Island Sound, Connecticut (an iron spindle surmounted by a barrel).—The spindle and barrel were repaired.

Stratford beacon, Connecticut (a granite beacon with shaft and ball).—The beacon was repaired.

Outer Southwest beacon, Bridgeport Harbor, Connecticut (a wooden pyramid with a spar and cask).—The improvement of the harbor will dispense with this beacon.

OILHOUSES.

Built during the fiscal year ending June 30, 1904.—Bristol Ferry, Rhode Island; Morgan Point, Connecticut.

LIGHT-VESSELS.

Ohio Ledge, Narragansett Bay, Rhode Island.—The following recommendation, made in the Board's last two annual reports, is renewed:

Now that an appropriation has been made for the establishment of a light-house on Hog Island Shoal to take the place of Hog Island Shoal light-vessel, it is deemed necessary that Ohio Ledge, in Narragansett Bay, should be lighted and provided with a fog signal. It seems inadvisable, however, to place a regular light-vessel of the old domestic design or a light-house at this point, and it is therefore proposed to establish a gas-tank light-vessel, more or less of the French type, with the bell fog signal, to be manned by two keepers. Such a vessel would be economical both to build and to maintain, and while perhaps it could not be used in the general service to relieve other vessels, it would be adequate to the necessities of this especial case.

The Board estimates that a vessel of this type could be built for $15,000, and it recommends that an appropriation of this amount be made therefor.

193. Brenton Reef light-vessel, No. 39, entrance to Narragansett Bay, Rhode Island.—This wooden vessel was built in 1875, her gross burden is 387 tons, and she has a chime whistle fog-signal. She was on her station during the fiscal year. The fog-signal of the vessel was disabled on January 2, but it resumed operations on January 11, 1904. She received necessary fitments and supplies.

235. Ram Island Reef light-vessel, No. 23, Fishers Island Sound, New York.—This wooden vessel was built in 1857, is of 186 tons gross burden, and has a bell fog-signal. She was withdrawn from her station to avoid injury by running ice on February 23, and replaced on February 26, 1904. She was on her station during the rest of the year. During the year she received necessary fitments and supplies.

258. Bartlett Reef light-vessel, No. 13, off New London, Long Island Sound, Connecticut.—This wooden vessel was built in 1857, is of 155 tons gross burden, and has a bell fog-signal. The color of the day-marks was changed from straw color to black on September 15, 1903. She was withdrawn for repairs on August 5, 1903, and replaced on station on August 21, 1903. She was dragged from her station by ice on February 22, and replaced on February 26, 1904. She was again withdrawn on May 15, 1904. She was on her station during the year, except as noted undergoing repairs. Necessary fitments and supplies were furnished to her.

308. Cornfield Point light-vessel, No. 48, off the mouth of the Connecticut River, Long Island Sound, Connecticut.—This composite vessel was built in 1890–91, is of 295 tons gross burden, and has a steam whistle fog-signal. A flashing white light is shown from the revolving lantern at her foremast, and a fixed red light is shown from her mainmast. This vessel, which had been off for repairs since June 8, was replaced on station on August 5, 1903. She was dragged from her station by ice on February 20, and replaced on February 26, 1904. She was on station during the year except for the periods stated. When she parted her moorings she lost her riding chain and mushroom anchor. She received during the year needed fitments and supplies and proper repairs.

368. Fire Island light-vessel, No. 68, off Fire Island, Atlantic coast of Long Island, New York.—This steam light-vessel was built in 1897, and is of 450 tons gross burden. Her light is electric, fixed white from each masthead, and her fog-signal is a steam chime

whistle. On January 14, 1904, in a strong westerly wind and a rough sea, she parted her moorings, and, proceeding under her own steam, she arrived at 1 a. m., on January 15, at the general light-house depot. On January 16, assisted by the tender *Larkspur*, she was replaced on her station. Her lost moorings, a mushroom anchor and 120 fathoms of chain, were recovered by the supply steamer *Armeria* on March 29, 1904. She was not off her station during the year except as stated. She received needed fitments and supplies.

375. Sandy Hook light-vessel, No. 51, off the entrance to New York Bay, New York.—This steel steam self-propelling light-vessel was built in 1892, and is of 283 tons gross burden. Her light is electric, fixed white, with eclipses, and her fog-signal is a 10-inch steam whistle. She was withdrawn for repairs on October 17, and replaced on her station on November 19, 1903. She was on her station during the rest of the year. She received needed fitments, supplies, and proper repairs.

377. Scotland light-vessel, No. 11, off entrance to New York Bay and seacoast of New Jersey.—This wooden vessel was built in 1853, is of 320 tons gross burden, and her fog-signal is a bell. She was on her station throughout the year. She received needed supplies and fitments.

Relief light-vessel No. 78, for the Third light-house district.—By the act approved on March 3, 1903, an appropriation of $90,000 was made for constructing, equipping, and outfitting complete for service a first-class light-vessel with steam fog-signal for the Third light-house district. She is being built under contract, and, it is expected, will be ready for duty by the end of this calendar year. She is a first-class steel steam light-vessel of 621 tons displacement, length between perpendiculars 112 feet 11 inches, breadth molded 28 feet 6 inches, depth of hold 15 feet 4 inches. The machinery consists of one vertical, inverted, direct-acting, open-front, surface-condensing, fore-and-aft compound engine, with cylinders 16 inches by 31 inches and a piston stroke of 24 inches. Steam is furnished by two boilers of the gunboat type, 9 feet 3 inches mean diameter by 16 feet 4½ inches long, with Fox corrugated furnaces in each boiler. The vessel has three decks, main and spar decks being continuous, the lower deck extending from stem to coal-bunker bulkhead and from sternpost to engine-room bulkhead. She is equipped with two lantern masts and trisail masts and provided with full set of sails. There are state-rooms provided in different parts of the vessel for 3 officers and 12 men, with suitable lockers, baths, etc. The ventilating and sanitary conditions are of the best; the living quarters are roomy and comfortable.

Relief light-vessel No. 7.—This wooden light-vessel was built in 1854, and is of 142 tons gross burden. She has received proper repairs. She is kept at the general light-house depot for temporary duty.

Relief light-vessel No. 16.—This wooden vessel was built in 1854, is of 280 tons gross burden, and has a steam fog-signal. She relieved Fenwick Island Shoal light-vessel, No. 52, on July 20, 1903, and on September 4 was towed to the general light-house depot by the tender *Zizania*. She was on the Sandy Hook station from October 17 to November 9, 1903. She left the general light-house depot in tow of

the supply steamer *Armeria* on May 5, to relieve Northeast End light-vessel, No. 44, and was towed back to the general light-house depot by the tender *Zizania* on June 25, 1904. She is kept at the general light-house depot in readiness to relieve any one of the four vessels in the Third light-house district equipped with steam fog-signals and similar vessels in other districts, when required, as in the past year.

Relief light-vessel No. 20.—This wooden vessel was built in 1857, is of 105 tons gross burden, and has a bell fog-signal. She is kept at the New London, Conn., light-house depot for the relief of the light-vessels not equipped with steam fog-signals or flashing or occulting lights. She relieved Cornfield Point light-vessel from June 8 to August 5, 1903; the Bartlett Reef light-vessel from August 5 to August 21, 1903, and again from May 15, 1904, to the present time. She was injured in a gale on September 16, 1903, and received general repairs.

Light-vessel No. 76.—This vessel, intended for service in the twelfth and thirteenth districts, was delivered by the contractors at the general light-house depot on May 26, 1904. She was practically tested in a special trip to deliver rations to light-stations in Long Island Sound. She is now being equipped and supplied for her voyage to San Francisco.

FOG-SIGNALS OPERATED BY STEAM OR HOT-AIR ENGINES.

193. Brenton Reef light-vessel, No. 39, Rhode Island.—The 2 steam whistles, 6-inch and 12-inch, were in operation about 485 hours and consumed some 95 tons of coal.

194. Beavertail, Rhode Island.—This second-class siren, in duplicate, operated by oil engines and compressed air, was in operation about 497 hours and consumed some 873 gallons of oil.

203. Hog Island Shoal, Rhode Island.—This compressed-air siren, operated by 2-horsepower oil engines, in duplicate, was in operation about 363 hours and consumed some 174 gallons of oil.

212. Conanicut Island, Rhode Island.—This compressed-air siren, worked by 2-horsepower oil engines, in duplicate, was in operation about 354 hours and consumed some 235 gallons of oil.

214. Warwick, Rhode Island.—This compressed-air siren, worked by 2-horsepower oil engines, in duplicate, was in operation about 251 hours and consumed some 90 gallons of oil.

223. Point Judith, Rhode Island.—This first-class compressed-air siren, in duplicate, operated by oil engines, was in operation 716 hours and consumed some 1,484 gallons of oil.

227. Block Island Southeast, Rhode Island.—This first-class steam siren, in duplicate, was in operation some 736 hours and consumed about 45 tons of coal.

229. Great Salt Pond Breakwater inner end beacon, Rhode Island.—This compressed-air siren, worked by a 2-horsepower oil engine, was in operation about 331 hours and consumed some 88 gallons of oil.

231. Montauk Point, New York.—This first-class compressed-air siren, in duplicate, operated by 13-horsepower oil engines, was in operation about 519 hours and consumed some 1,100 gallons of oil;

13-horsepower engines were substituted for the 10-horsepower in August, 1903.

239. New London, Connecticut.—This first-class Daboll trumpet was in operation about 1 hour and consumed some 2 gallons of oil. On August 1, 1903, the Daboll trumpet was replaced by a first-class siren operated by compressed air, and was in operation 684 hours and consumed some 1,868 gallons of oil.

259. Race Rock, New York.—This second-class compressed-air siren, worked by a 7½-horsepower oil engine, was in operation about 667 hours and consumed 695 gallons of oil.

260. Little Gull Island, New York.—This second-class compressed-air siren, in duplicate, worked by a 13-horsepower oil engine, was in operation about 736 hours and consumed some 1,235 gallons of oil.

263. Orien Point, New York.—This compressed-air siren, worked by a 2-horsepower oil engine, in duplicate, was in operation about 353 hours and consumed some 100 gallons of oil.

308. Cornfield Point light-vessel, No. 48, Connecticut.—This 12-inch steam whistle was in operation about 579 hours and consumed some 122 tons of coal.

311. Falkner Island, Connecticut.—This first-class compressed-air siren, operated by 16-horsepower oil engines, in duplicate, was in operation about 547 hours and consumed 1,305 gallons of oil.

313. Southwest Ledge, Connecticut.—This second-class Daboll trumpet, worked by 3½-horsepower oil engines, in duplicate, was in operation about 466 hours and consumed some 222 gallons of oil.

316. New Haven Outer Breakwater, Connecticut.—This compressed-air siren, in duplicate, worked by 2-horsepower oil engines, was in operation about 476 hours and consumed some 197 gallons of oil.

321. Stratford Shoal, Middle Ground, New York.—This second-class Daboll trumpet, worked by 3½-horsepower oil engines, in duplicate, was in operation about 509 hours and consumed some 245 gallons of oil.

328. Penfield Reef, Connecticut.—This second-class Daboll trumpet, worked by 3½-horsepower oil engines, in duplicate, was in operation about 389 hours and consumed some 180 gallons of oil.

335. Greens Ledge, Connecticut.—This second-class Daboll trumpet, worked by 5-horsepower oil engines, in duplicate, was in operation about 381 hours and consumed some 222 gallons of oil.

336. Eatons Neck, New York.—This second-class steam siren, in duplicate, was in operation about 532 hours and consumed some 36 tons of coal. On June 30, 1904, the steam siren was replaced by a first-class automatic siren, operated by compressed air, worked by 13-horsepower oil engines, in duplicate.

343. Great Captain Island, New York.—This 10-inch steam whistle, in duplicate, was in operation about 409 hours and consumed some 57 tons of coal.

349. Execution Rocks, New York.—This first-class automatic steam siren, in duplicate, was in operation about 460 hours and consumed some 32 tons of coal.

368. Fire Island light-vessel, No. 68, New York.—This 12-inch steam chime whistle was in operation about 557 hours and consumed 93 tons of coal.

375. Sandy Hook light-vessel, No. 51, New York.—This 12-inch steam whistle was in operation about 535 hours and consumed 149 tons of coal.

396. North Hook beacon, Sandy Hook, New Jersey.—This first-class automatic siren, in duplicate, was in operation about 756 hours and consumed 67 tons of coal.

405. Old Orchard Shoal, New York.—This compressed-air siren, worked by 2-horsepower oil engine, was in operation about 425 hours and consumed some 233 gallons of oil.

407. West Bank, New York.—This compressed-air siren, worked by 2-horsepower oil engine, was in operation some 617 hours and consumed some 194 gallons of oil.

416. Robbins Reef, New York.—This compressed-air siren, worked by a 3½-horsepower oil engine, was in operation about 481 hours and consumed some 253 gallons of oil.

417. Governors Island, New York.—This compressed-air siren, worked by a 2-horsepower oil engine, was in operation about 295 hours and consumed some 143 gallons of oil.

BUOYAGE.

The winter season of 1903–4 was unprecedentedly inclement. The ice was very heavy and stiff and moved down the channels with the ebb and back with the flood tide, the mercury frequently falling below zero, freezing over the whole of New York Lower Bay. Such conditions have not occurred for over thirty years. Large vessels of 8,000 tons burden were dragged ashore from their moorings in the harbor, or were caught in the flow of ice at the ebb of the tide and were unable to make any headway until the ice was partially broken in the Lower Bay by the sea. The ice was piled at Fort Lafayette, New York Harbor, to a height of 20 feet, and on shoals in the harbor, over which there is 5 feet of water, to a height of 10 feet. During these severe conditions there was no time that the Gedney Channel buoys were not kept lighted, and never more than two of the eight lighted buoys extinguished during any one night, and none of the new-type gas buoys, marking the Gedney Channel, were dragged from their stations, and but two of the new-type channel buoys were displaced.

Channel buoy.—The new type of channel buoys may in general be described as cigar-shaped, the part above water being, in can buoys, cylindrical, and, in nun buoys, conical, rather smaller in diameter than the upper bodies of the old-style buoys, but superior to these in vertical buoyancy, or "watching" straighter and higher at all stages of the tide, which constitutes their greatest value after that of their resistance to displacement in running ice. In these buoys the ballast ball is attached to the mooring end and is detachable for very deep water, where the weight of the mooring chain will serve for ballast.

Gas-lighted buoy, spar shaped, Mark II and Mark III.—These new types of gas-lighted buoys are an adaptation from the channel buoy, surmounted by a guard and lantern.

Whistling buoy, new type.—The new type of whistling buoy also combines the form of the channel buoy with an internal tube, surmounted by a whistle.

Gas whistling buoy.—This is a combination of the two preceding buoys, the whistle placed beneath the lantern. For experiment it has been on duty in Gedney Channel. It furnishes a longer and louder note than the standard whistling bouy. As a lighted buoy its performance has been normal.

LIGHT-HOUSE DEPOTS.

Tompkinsville, N. Y.—This is the general depot of the Light-House Establishment, as well as the principal depot of the Third light-house district. Here are received and stored the supplies and appendages for all aids to navigation. The materials are purchased under contract, according to samples, most of them being, in some respects, peculiar to the Light-House Service, and are prepared for distribution to the stations on the Atlantic and Gulf coasts by the supply steamer *Armeria*, and to the districts on the lakes and rivers and on the Pacific coast by shipment as freight.

The principal work done at this depot during the year under the inspector of the district was preparing and shipping supplies of different kinds, embracing oil, wicks, chimneys, cleaning materials, tools and implements, ship chandlery, hardware, and marine engineer stores, as well as rations, fuel, and special furnishings for incidental supply, were received, stored, packed, and shipped. The supply steamer was loaded for three principal voyages and other trips for district work and unused or condemned stores were unloaded upon her return; oils, paints, chimneys, and such other supplies as require analysis or trial were tested as required; tenders and light-vessels were repaired; boats, sails, awnings, and articles of various kinds were made or repaired; buoys and appendages were repaired or manufactured in part, and cans and cases returned after use were cleansed and prepared for further service.

In this department are the power house and the shops of the blacksmith, carpenter, spar maker, and boat builder. It includes also the fire department of the depot, composed of the workmen in the yard and the crews of the vessels lying at the wharves. They are organized, equipped, and drilled, and the fire engine and hose connections are kept in condition for immediate use.

The act approved on June 28, 1902, appropriated $60,000 for the erection of an oilhouse and a coal shed.

The act approved on March 3, 1903, appropriated $50,000 for the erection of a new lamp shop.

The act approved on April 28, 1904, appropriated $17,800 for building a new boathouse, a carpenter shop, a blacksmith shop, a buoy shed on North Wharf, a watchhouse at the lower gate, and a watchhouse at the upper gate.

Contract was made on June 10, 1903, for building this oilhouse. The work was begun on July 1, 1903, and was completed in December. On October 14, 1903, an additional contract was made for installing the elevator in the oilhouse. This was completed in December also.

The ironwork of all the depot wharves was painted by contract and the work was, on October 27, 1903, completed.

DWELLINGS FOR THE ASSISTANTS TO THE INSPECTOR AND ENGINEER OF THE THIRD LIGHT-HOUSE DISTRICT.

The general light-house depot at Staten Island is the general depot for the Light-House Establishment, and also the principal depot for the Third district. The growing needs of the Light-House Establishment in the last thirty years require better arrangements for handling and storing materials, and improvements have been continued systematically since 1888. The value of the supplies and material accumulated there, with their inflammable nature, is such that in case of fire the loss to the Government would be enormous, and the presence on the grounds of at least one officer to act in such emergency is very necessary. The duties of the inspector and engineer often require their simultaneous absence from the depot, and it is with a view of having at all times an authorized person on the grounds that it is proposed to require that the two assistants shall reside on the depot grounds. It is estimated that the cost of dwellings for the two assistants, including furniture and remodeling of the surrounding grounds, will cost not to exceed $20,000, and the Board recommends that an appropriation of this amount be made therefor as a continuation of the annual appropriations for the improvements to Staten Island general light-house depot.

New London, Conn.—The needs of all the aids to navigation in the eastern section of this district embraced in the waters between New Haven, Conn., and Providence, R. I., except the annual supplies for light-stations delivered by the steamer *Armeria*, are supplied by this depot and the depot on Goat Island, Newport Harbor, Rhode Island. There are stored here incidental supplies, buoys and appendages, fuel, lime, and light-vessel moorings. The tender *Cactus* makes her headquarters here. Light-vessel No. 20 is kept here in readiness for duty as a relief light-vessel. Plans and specifications were prepared for repairing and extending this wharf. Contract was made for doing this work, but it has not yet been started.

Goat Island, Newport Harbor, Rhode Island.—This light-house depot supplements the service of the depot at New London in the convenience of its location. Here are stored moorings and buoys and appendages for stations and light-vessels in and near Narragansett Bay. Plans and specifications were made for repairing this wharf. Contract was made for the work on June 11, and on June 25, 1904, it was finished.

Juniper Island, Lake Champlain, Vermont.—This light-house depot is used for the service of the light-stations and buoys in Lake Champlain. Here is a small storehouse for supplies, building materials, and boats.

LIGHT-HOUSE TENDERS.

Armeria.—This steel-screw steamer was built in 1889–90, and is of 1,475 tons displacement. She made three voyages during the year. She delivered, on her eastern voyage, annual supplies to the light-stations on the coasts, bays, sounds, and rivers betwen St. Croix River, Maine, and Robbins Reef, New York; on her southern voyage, to the stations between Cape Lookout, North Carolina, and Point Isabel, Texas, and, on her central voyage, to the stations from Ports-

mouth, Va., to Fire Island, New York, including those in the Chesapeake and Delaware bays and the Hudson River. She delivered to the light-stations 328,355 gallons of mineral oil, 7,306 boxes of chimneys, 15,975 packages of miscellaneous annual and incidental supplies, and in the district depots 207 tons of paints, oils, and turpentine, and 265 tons of buoys, chains, sinkers, ballast balls, and mushroom anchors. In special service, she delivered 164 tons of coal, 21 cords of wood, and rations to the light-stations; changed the buoys off St. Augustine, in Mosquito Inlet, at Hetzel and Ohio shoals, the Slue and Anchorage buoys off Cape Canaveral, Florida, and the buoys off Aransas Pass and Brazos Santiago, Tex.; recovered a mushroom anchor and 120 fathoms of chain lost from the Fire Island light-vessel, when she broke adrift in January, 1904; and she towed relief light-vessel No. 16 from the general light-house depot and placed her on the station at northeast end of Five Fathom Bank, New Jersey. In doing her annual work she steamed about 16,790 miles, and consumed some 1,689 tons of coal. She received needed fitments and supplies and proper repairs.

Larkspur.—This tender, which has been in commission since February 24, 1903, is a twin-screw steel steamer, schooner rigged, of 750 indicated horsepower, with 100 pounds steam pressure. She is a seagoing vessel, has equipment and strength for general service, and her average speed is 10 knots. She delivered 631 tons of coal, 2,192 packages of incidental supplies, 5½ cords of wood, 2,500 gallons of water, and 2,775 gallons of oil. She made 19 tours of inspection, changed light-vessels ten times, and was 59 days undergoing repairs. In doing her work she steamed about 11,586 miles, and consumed some 1,682 tons of coal. The vessel received needed fitments and supplies and proper repairs.

John Rodgers.—This iron side-wheel steamer was built in 1883, and her gross burden is 260 tons. She was employed on patrol duty 75 days and in tours of inspection 20 days. She delivered to light-stations 745 packages of supplies and 273 tons of coal, and bagged 150 tons of coal. She placed and replaced 425 buoys and painted 225. She was employed at various duties at the general light-house depot 30 days, in transportation 18 days, in passage 19 days, and she was laid up for repairs 20 days. She made 20 shipments of freight, charged with gas 53 buoys at the light-house depot and on stations, relighted gas buoys 21 times, and delivered and returned 60 buoys and tanks charged with gas. She built one post light, towed light-vessels six times, and moved light-keepers and their effects three times. In the discharge of these duties she steamed about 9,109 miles and consumed some 756 tons of coal. She received needed fitments, supplies, and proper repairs.

Cactus.—This wooden side-wheel steamer of 200 tons gross burden was built for the Navy Department in 1863, and was transferred in 1865 to the Light-House Board. In doing her annual work the *Cactus* replaced 36, changed 219, painted 262, and recovered 13 buoys; delivered 3,055 gallons of oil, 636 tons of coal, 21 cords of wood, 36 barrels of lime, 949 packages of supplies and rations to 20 stations, and inspected 88 stations. She was at the New London, Conn., light-house depot repairing and painting buoys 72 days, moved light-keepers 13 days, tended light-vessels 13 days, and was 35 days undergoing repairs. She steamed some 11,073 miles and consumed about

496 tons of coal. She received needed fitments and supplies and proper repairs.

The following recommendation, made in the Board's last two annual reports, is renewed:

The *Cactus* was built for the Navy Department in 1863, thirty-nine years ago, and was transferred to the Light-House Service in 1865, where she has done good service. She has, however, become unseaworthy and unfit to perform the duties required of her—the maintenance of the buoyage from New Haven, Conn., to Providence, R. I. She should be replaced by a modern vessel as soon as practicable. It is unsafe to send her around Point Judith except under favorable conditions of sea and weather. It is equally risky to send her to any of the light-stations on Block Island or to any in the waters of the eastern end of Long Island. She is frequently delayed, waiting for safe weather for days, in the performance of urgent light-house service, and has been unable lately on several occasions to do routine work, which she could formerly do without difficulty. Inasmuch as light-house work must be done under circumstances where the use of a vessel in the *Cactus's* unsafe condition is hazardous to the lives of her officers and crew, it is desirable to build a tender somewhat similar to the *Marigold*, and provided with gas tanks to meet the requirements of the constantly increasing number of gas-lighted buoys in the eastern end of the Third light-house district. It is estimated that such a tender can be built at a cost of $125,000, and the Board recommends that an appropriation of that amount be made therefor.

In consequence of the increase in the cost of material and labor since the above estimate was made, it is now found that it will cost $135,000 to replace the *Cactus*, and the Board therefore recommends that an appropriation of this amount be made therefor.

Gardenia.—This wooden screw steamer was purchased in 1886, and is of 150 tons gross burden. She was employed 65 days at various duties at the general light-house depot, and on tours of inspection 11 days; she delivered rations 2 days, was laid up for repairs and installing new boiler 98 days; changed 298 buoys and painted 286; delivered 70 tons of coal, 6 cords of wood, 7,100 gallons of water, 100 cases of mineral oil; shipped 7 gas buoys and 895 packages of supplies; bagged 140 tons of coal at the general light-house depot, and towed 5 light-vessels to and from their stations. In doing this work she consumed some 440 tons of coal and steamed about 6,287 miles. She received needed fitments and supplies and proper repairs.

Daisy.—This wooden screw steamer was purchased in 1892, and is of about 35 tons gross burden. She delivered 2,055 cases of mineral oil, 298 packages of supplies, 55 tons of coal and 7 cords of wood, and rations to 7 stations, and made shipments to the various transportation lines. She was employed in tours of inspection 50 days, on patrol duty 15 days, and in making concrete sinkers, painting buoys, and bagging coal, at the general light-house depot, 65 days. She was laid up for repairs 14 days. In doing her work she steamed about 8,937 miles, and consumed some 182 tons of coal. With her speed of about 9 knots an hour, and her hoisting gear to handle weights of the smaller buoys and appendages, she is a valuable tender in all shoal-water work. She has particular charge of the buoyage in the Kill Van Kull, in the small harbors west of New Haven on the north side of Long Island Sound, on the south shore of Long Island, and in Lake Champlain, in most of which waterways the buoyage was formerly kept by contractors at considerable expense for indifferent service as a whole. She received needed fitments and supplies and proper repairs.

Iris.—This steel screw steamer was built in 1897, and is of 428 tons burden. She was actively employed in the inspection, construction, and repairs of lights, beacons, signals, etc., in the performance of which duties she steamed about 1,136 hours and 12,230 miles, with a consumption of 922.79 tons of coal, an average of 1,819.5 pounds for each hour of steaming. Various repairs were made.

Mistletoe.—This wooden side-wheel steamer of 332 tons burden was built in 1872. Except while undergoing repairs, she was actively employed in the work of inspection, construction, repairs of lights, signals, and beacons, and the freighting and shipment of stores, materials, supplies, and lens apparatus. In the performance of these duties she steamed 1,029 hours, 9,158 miles, with a consumption of 636.16 tons of coal, an average of 1,365.4 pounds for each hour of steaming. Various repairs were made.

Nettle.—This wooden screw steamer was built in 1878 and is of 18 tons burden. She was actively employed in the general work of repairs, inspection of lights, signals, etc., in New York Bay and adjacent waters, Lake Champlain, and in Long Island Sound as far east as New London, at points and in places where a larger vessel could neither economically or advantageously be employed, and in the receipt and shipment of freight, stores, apparatus, etc., of this and other districts. In the performance of these duties she steamed 778 hours, 5,225 miles, with a consumption of 95 tons of coal, an average of 273.5 pounds for each hour of steaming.

Tender for New York Bay and Harbor and Lake Champlain, New York.—The following is a copy of a letter, dated December 17, 1903, from the Secretary of Commerce and Labor to the Secretary of the Treasury:

This Department, at the instance of the Light-House Board, recommends that an appropriation of $25,000 be made to build or purchase a small light-draft steam tender, of about 25 tons burden, to take the place of the light-house tender *Nettle*, as the *Nettle* is now very nearly unseaworthy.

The engineer of the Third light-house district, under whose orders the tender *Nettle* is at work, states that "this boat is primarily for use for repair and construction of light-houses on Lake Champlain. She has a wooden hull, and was built in 1878. Her boiler is leaking, and she will probably need a new one in the course of a year. She has only a few inches of free board, and in crossing New York Bay the waves from the ferry boats not infrequently come over the afterdeck. Her accommodations are necessarily very limited. The master's berth in the pilot-house is shorter than is the master. During the present year, which may be taken as a sample, she (the *Nettle*) was employed about four months on Lake Champlain and about eight months at the general light-house depot. When on duty at the depot she is used as a dispatch boat, taking to New York and bringing from there small freight, and in carrying men and materials for repairs at near-by light-stations. Owing to her slight free board I always feel anxious when out in the bay."

As the *Nettle* has been, and will probably be in the future, available for work outside of Lake Champlain for two-thirds of the year, economy would dictate that her successor should be of size suitable for use in New York Bay, Shrewsbury River, Raritan River, and like waters. In many of these places a light-draft boat is necessary. A larger boat could not be used in Lake Champlain, as the canal will not allow a boat of more than 25 tons burden to pass through.

For these reasons this Department, in concurrence with the Light-House Board, recommends that an appropriation of $25,000 be made to build or purchase and outfit a small steam tender to take the place of the small steam tender *Nettle*, which will hardly last until her successor is built.

PORTO RICAN LIGHT-HOUSE ESTABLISHMENT.

[Being a part of the Third light-house district.]

On May 1, 1900, the Light-House Board was directed to take charge of the Porto Rican light-house service. The Board, with the approval of the Secretary of the Treasury, at its session of May 7, 1900, ordered that—

the boundaries of the Third light-house district be extended so as to include within it the island of Porto Rico and the adjacent islands and waters of the islands lying east of the seventy-fourth meridian of longitude west of Greenwich which were ceded to the United States by the Government of Spain by treaty entered into on the 10th day of December, 1898.

Assistant to the Inspector of the Third light-house district.—Lieut. Commander William G. Cutler, U. S. Navy.

Engineer.—Lieut. Col. William T. Rossell, Corps of Engineers, U. S. Army.

In this subdistrict there are—

Light-houses and lighted beacons	15
Bell buoys in position	3
Other buoys in position	53

Schooner India.—This schooner was hired for transporting tools, material, and a working party to the different light-stations in Porto Rico. On November 25, 1903, the schooner started on her first trip to light-stations to make repairs, returning to San Juan on January 3, 1904, having been employed a total of 40 days and having sailed 290 miles.

Tender for Porto Rican waters.—The following recommendation made in the Board's last three annual reports is renewed:

Efforts have been made to carry on the light-house service in Porto Rican waters with the aid of steamers borrowed from the Navy and from other light-house districts, with but poor success. It is now evident that it is necessary to provide for this service a stanch seagoing steamer, drawing about 11 feet of water, of about 175 feet in length, with good beam, heavily engined, calculated to freight all of the light-house material needed from the mainland to the island and to distribute it to the light-houses on the 400 miles of Porto Rican coast, carrying to and fro inspection, supply, and repair parties, with proper material, and to carry, set, and care for the buoys required on the Porto Rican coast. The one steamer could do the work of maintenance, supply, and buoyage under the light-house inspector and that of construction and repair under the light-house engineer.

The assistant to the inspector of the Third light-house district in charge of the Porto Rican light-house service wrote to the inspector of the Third light-house district on February 14, 1901, as follows:

"Considering the distance between good harbors about the island and the constant trade winds that beat against the shores, making all the running on the high seas; the isolation of some of the stations and the difficulty of supplying them or communicating with them, it is seen that the services of a seagoing tender are needed at all times. * * * The buoyage system, when completed, will also require a tender to keep the buoys painted, as the birds will make all colors white in a short time."

This officer, in his letter of March 23, 1901, in answer to a query as to whether the tender *Laurel*, then stationed in the Seventh light-house district, with headquarters at Key West, Fla., would be a suitable tender for this district, replied:

"Most of the stations are miles away from any good anchorage, and when buoys are placed off the eastern and western ends of the island they will be in exposed waters and may need the services of a tender at any time. To work in moderately rough weather and to reach the isolated stations when a landing

can be made, and to make quickly, if necessary, the nearest anchorage, it is thought that only a seagoing tender of a strong, modern type, capable of a speed of 12 knots, good beam, from 150 to 175 feet in length, with not more than 12 feet draft, twin screws for quick handling, accommodations and modern improvements adapted to this climate, will sufficiently meet the requirements of this subdistrict."

It is estimated that such a steamer can be built for not exceeding $130,000. The Board now recommends that this sum be appropriated therefor, and that it may be made immediately available, as the steamer is needed now, and expensive unsatisfactory makeshifts will have to be used until a proper steamer is constructed.

The Board is of the opinion that the steamer which could have been built for $125,000 when the estimate was first made will now cost $135,000, and it recommends that an appropriation of that amount be made therefor.

A tender is needed at Porto Rico not only for purposes of supply and inspection, but also for purposes of construction and repair. Three hired sailing vessels were used from time to time, and the Navy tug *Uncas*, for these latter purposes last year, but their services were far from satisfactory, as they were coasting and not seagoing vessels, and much time was lost waiting for wind or fair weather, and during that time the wages of the repair parties were going on while they were doing nothing.

A seagoing tender is especially needed to transport from New York to Porto Rico the light-house supplies used at Porto Rico, and which are now sent as freight to Porto Rico at much expense.

The following is an extract from the annual report of the inspector of the Third light-house district, who has charge of the Porto Rican light-house service:

The tropical climate demands a greatly increased work with the buoyage. The keeper personnel is of a character needing frequent inspections, and the delivery of supplies is at present only accomplished at great expense of fuel by the tender from the Florida district, with obvious disadvantage to her own legitimate work. It is earnestly recommended that the attention of Congress may be invited to these details of the situation.

The tender *Laurel*, borrowed from the Seventh light-house district, arrived at San Juan, P. R., on December 5, 1901, and left again for Key West on April 1, 1902. During her stay in these waters, in addition to being used to inspect stations and deliver supplies, she was employed in establishing 11 new buoys and in taking up and replacing by fresh buoys all the buoys in the Porto Rican waters, and in scraping, cleaning, painting, and getting ready for use the buoys and appendages that had been in the water. This duty was only accomplished between December 5, 1901, and April 1, 1902, three months and twenty-six days, by keeping the crew constantly employed, including Saturday afternoons (which, when the vessel is in her own district, is employed by the crew in scrubbing and mending clothes) and on Sundays.

The cause of this delay was the slow speed of the *Laurel*, the distances between stations, and the fact that in going from one station to another it is necessary to go to sea and to stay at sea, which from her small size, lack of power, and low free board, was beyond her capacity. On several occasions when the *Laurel* was ready for sea to make an inspection or supply trip, or to change buoys, she had to remain at her dock simply because of the surf at the mouth of the harbor, which made it impracticable for her to cross the bar.

The investigation of the visibility of the Mona Island light in March required one whole week, because of the inadaptability of the *Laurel* for these waters, which were very rough during that time, the trade winds blowing with the force of a gale. It was necessary on several occasions while on this service to run for the port of Mayaguez for safety; but a vessel of proper size and power could have done the work within twenty-four hours.

To give a clear idea of the great difficulty in attending to the work of the light-house tender in caring for the buoyage and supply and inspection in this subdistrict, herewith is submitted a statement of distances between stations and harbors which the tender must run:

Cape San Juan light-station, about 32 miles from the port of San Juan, is nearly a mile from the landing, which is on a sandy beach inside the reefs. There is good anchorage inside the reefs or among the surrounding islands.

Culebrita Island light-station is about 23 miles from Cape San Juan light. There is good landing here for small boats.

Point Mulas light-station, on Vieques or Crab Island, is an open roadstead with a very heavy swell at most times. The landing is near the light, but the nearest harbor is Bahia Honda, 11 miles distant.

Port Ferro light-station, south side of Vieques or Crab Island, is 26 miles around the island from Point Mulas. No landing can be made at Ferro with easterly or southerly winds. The nearest harbor is Bahia Honda, 20 miles distant.

Point Tuna light-station is about 30 miles from Port Ferro. The surf is very heavy, making it difficult and dangerous to land. There is no harbor here; the nearest is Bahia Honda, on the east, 24 miles, and Jobos, on the west, about the same distance.

Point Figuras light-station is about 2 miles from the city of Arroyo. Here there is an open roadstead, but the landing is comparatively easy through the surf in good weather. The nearest harbor is Jobos, 13 miles distant.

Muertos Island light-station is about 20 miles from Jobos Harbor. The landing is through the surf and not difficult in good weather. Ponce Harbor is about 11 miles distant to the westward.

Cardona Island light-station is in Ponce Harbor. The landing here is easy.

Guanica light-station is about 15 miles from Ponce. The harbor and landing here are good.

Cape Rojo light-station is about 19 miles from Guanica. The landing is on the west side of the cape and is easy. The nearest harbor is Mayaguez, 22 miles away.

Mona Island light-station is about 40 miles from either Cape Rojo or Mayaguez. It is impossible to land here except in the smoothest of weather, and then through a small opening in a line of dangerous reefs. The light-house is 2 miles from the landing, over a trail which is exceedingly rough. In landing a party here the steamer has to stand offshore, for, when the trade winds freshen, her anchors will not hold. Landing is usually made in the early morning, as the wind, and therefore the sea, comes up with the sun.

Point Jiguero light-station is 12½ miles from Mayaguez. In good weather, landing may be made near the light, but otherwise at a small village 2 miles away.

Point Borinquen light-station is 22 miles from Mayaguez, which is the nearest harbor, and 10 miles from Point Jiguero light. The landing is near the light, through surf in moderate weather; otherwise it is necessary to land at Aguadilla and take a horse over a tortuous, winding, and rocky trail for 5 miles to get to the station.

There is no harbor on the northern shore of Porto Rico between Point Borinquen light and San Juan, a distance of 65 miles, except at Arecibo, and only then in the best weather, for it is an open roadstead and there is a constant and heavy swell caused by the trade winds and the gales in the north.

Arecibo light-station is about 35 miles from Port San Juan. The landing is near the light, but it is only possible to land there in good weather.

It is easily seen from the foregoing that a seagoing tender is an essential adjunct to carrying on the work in this subdistrict. It is impracticable to inspect and supply the lights without such a tender. Nor is it practicable to buoy the waters of the district and keep them buoyed unless a tender is assigned to this duty.

While it took the *Laurel*, a slow vessel of but 312 tons gross burden, 116 days to inspect and supply these lights and place the buoys, the same work was done, except as to a part of the buoyage, by the supply steamer *Armeria*, a much faster vessel of some 1,500 tons, in about a week. This larger steamer could stay at sea without danger to herself, without much reference to the weather, and could run into the difficult landing places in lulls of the wind, and get away from the dangerous shore before the wind arose again. This difference of time, 116 days against 8 days, in doing the work shows the difference in the ability of the two steamers and the need for a seagoing steamer as a tender in these waters. But illy adapted as the *Laurel* was for the work, she had to be taken from her own duties in Florida to do these more pressing duties in Porto Rican waters.

The Board is mortified that with all its efforts it has been unable to bring or keep the Porto Rican light-house service up to the standard of the United State Light-House Service. It is impossible without the assistance of a seagoing tender to make the buoyage in these waters what it should be, or to keep the light-houses in repair or instruct the light-keepers and see that they properly do their work. The makeshifts attempted, by borrowing for a short time tenders sorely needed in their own districts, have met with poor success.

The Board now states that the establishment of a naval station at San Juan, P. R., and a naval base at Great Harbor, Culebra Island; the assembling in the winter months of all the naval vessels of the North and South Atlantic and European stations in and about Porto Rican waters for maneuvering and search problems; the want of good charts, with the frequent discovery of new dangers to navigation, must bring to mind the great risks taken by our cruisers and battle ships while cruising in these waters.

The cost of repairs to vessels touching the bottom is very great, and to prevent such accidents the necessity for the proper aids to navigation, and more particularly good buoyage, is most urgent.

The Board recommended in its annual report of last year that an appropriation of $130,000 be made for the construction of a proper light-house tender for the Porto Rican light-house service. The

Board now states that, owing to the increased prices of material and labor, $135,000 will be needed for the construction of this tender, and recommends that an appropriation of this amount be made therefor.

The tender *Pansy* was transferred, on May 28, 1904, from the Eighth district to the Porto Rican division for duty in this district. This tender was able to meet the requirements of temporary duty, but her age, size, and equipment were not such as to fit her for such service in West Indian waters.

The U. S. navy tug *Nina* was employed in Porto Rican waters because there was not available for the purpose a light-house tender of any district. But the need of the services of the *Nina* by the Navy Department is such that in letters to the Light-House Board is set forth the inconvenience which the absence of the vessel from the navy-yards had caused as the Department's reason for denying the Board's request for an extension of the period of temporary transfer beyond the time originally prescribed.

The necessity is now emphasized in the extension of the subdistrict to embrace the light-house service at Guantanamo Bay, Cuba.

The Board therefore states again that it will cost $135,000 to build a proper light-house tender for Porto Rican waters, and it renews its recommendation that an appropriation of that amount be made therefor.

Office and dwelling for the assistant to the inspector.—The following statement, made in the Board's last annual report, is renewed:

In December, 1902, the office of the assistant to the light-house inspector was transferred from the United States naval station at San Juan to the custom-house, where it is now located.

An office and dwelling for the assistant to the inspector is much needed. The War Department turned over to the Treasury Department the San Justo bastion, on the Mariana at San Juan, to be used as a site for office and quarters for the light-house inspector.

The following recommendation made in the Board's last annual report is renewed:

"It is estimated that a suitable building at this point can be built for $15,000, and the Board recommends that an appropriation of this amount be made therefor."

LIGHT-HOUSE DEPOT.

The following statement, made in the Board's last annual report, is renewed:

In June, 1903, the commandant of the naval station needing the storerooms occupied by the Light-House Establishment in the naval station at San Juan, it became necessary to remove all the light-house stores. A suitable building belonging then to the War Department was obtained through the courtesy of the army authorities here, and all the light-house inspector's and light-house engineer's stores were moved into it. The buoys and appendages are still stored in the navy-yard, but the space they occupy may be needed at any time by the Navy. A light-house depot for buoys and appendages and stores has become an urgent necessity. The Board stated in its last annual report:

"The space in the yard allotted for buoys and appendages is ample, but may be needed for the use of the Navy at any time. Land should be secured farther down the bay, a dock built, and a yard, inclosed by a fence, arranged for the accommodation of the buoys and appendages. A storehouse should also be built in conjunction with the yard and dock."

The following recommendation, made in the Board's last annual report, is renewed:

"It is estimated that these structures can be built for $15,000, and the Board recommends that an appropriation of that amount be made therefor."

THE NAVAL RESERVATION AT GUANTANAMO, CUBA.

On December 29, 1904, the President directed the Department of Commerce and Labor to take charge of the light-houses and buoyage within the limits of the naval reservation at Guantanamo, Cuba, and to have estimates prepared and submitted to Congress by the Light-House Establishment to defray the expenses of maintenance, and on January 4, 1904, the Secretary of Commerce and Labor directed the Light-House Board to take charge of the Guantanamo light-houses and of the buoyage of Guantanamo Bay and to prepare the estimates in question for submission to Congress.

The Board thereupon, at its session on February 1, 1904, ordered that the boundaries of the Third light-house district be extended so as to include within its boundaries the limits of the naval reservation at Guantanamo, Cuba, and on February 23, 1904, directed the inspector and engineer of the Third light-house district to govern themselves accordingly.

The Secretary of Commerce and Labor, on January 12, 1904, at the instance of the Light-House Board, wrote to the honorable the Secretary of the Treasury as follows:

The President by Executive order of December 29, 1903, directed that the Department of Commerce and Labor take charge of the light-houses and buoyage within the limits of the naval reservation at Guantanamo Bay, Cuba, and have estimates prepared and submitted to Congress to defray the expenses of maintenance.

This Department then, by order dated January 4, 1904, directed the Light-House Board to comply with that Executive order, which it has taken the proper measures to accomplish.

This Department therefore, at the instance of the Light-House Board, recommends that appropriation be made as follows:

Guantanamo Bay, Cuba, naval station light-house service: For maintaining existing aids to navigation, to establish and maintain additional lights, daymarks, and beacon lights, where required, to build a light-house depot with dock, buoy shed, storehouse, custodian's quarters, and an oilhouse, and to provide light-house supplies of all kinds needed, such as buoys and accessories, oil, paints, etc., including purchase of land therefor, and the pay of officers and crews of light-house tenders, and of clerks and other employees in the office of the light-house inspector and light-house engineer and at the light-house depot, $30,000.

This item is as nearly as may be a paraphrase of the item in the sundry civil appropriation bill which provides for the maintenance of the Porto Rican light-house service.

FOURTH DISTRICT.

This district extends from a point on the coast of New Jersey opposite Shrewsbury Rocks (but does not include the rocks) to and includes Metomkin Inlet, Virginia. It embraces all aids to navigation on the seacoast of New Jersey, Delaware, Maryland, and Virginia, and the tidal waters tributary to the sea between the rocks and the inlet.

Inspector.—Commander John Hubbard, U. S. Navy, to February 10, 1903; Commander Samuel P. Comly, U. S. Navy, from February 10, 1903.

Engineer.—Col. William A. Jones, Corps of Engineers, U. S. Army, to May 31, 1904; Maj. James C. Sanford, Corps of Engineers, U. S. Army, from May 31, 1904.

In this district there are:

Light-houses and beacon lights, including five post lights	71
Light-vessels in position	5
Day, or unlighted, beacons	3
Fog-signals operated by steam, caloric, or oil engines	8
Fog-signals operated by clockwork	8
Gas-lighted buoys in position	6
Whistling buoys in position	4
Bell buoys in position	9
New model can buoys in position	5
New model nun buoys in position	4
Iron spar buoys in position	31
Other buoys in position	164
Steamer *Zizania*, buoy tender, and for supply and inspection	1
Naphtha launch *Leal*, used for works of construction and repair	1

Some 277 inspections of vessels, stations, and post lights were made during the year, and, with few exceptions, the stations were found to be in efficient condition, and the keepers generally attentive to their duties. Frequent inspections of the buoys were made.

486. Seagirt, seacoast of New Jersey.—A sand fence was erected and kept in position during the winter. The sand that had drifted upon the lawn was removed, a quantity of fertilizing material was applied, and some resodding and reseeding was done. Various repairs were made.

487. Barnegat, seacoast of New Jersey.—A complete topographical survey of the station was made and maps were plotted. Two permanent transit stations and bench marks were established. Various repairs were made.

488. Tucker Beach, entrance to Great Egg Bay, New Jersey.—A complete topographical survey of the station was made and maps were plotted. Permanent transit stations and bench marks were established. Various repairs were made.

501. Harbor of Refuge, entrance to Delaware Bay, Delaware.—The severe storm beginning on September 16, 1903, during which the wind

was reported to have attained a velocity of 85 miles an hour, carried away the temporary frame light-tower, and washed from the wharf into the harbor a 2,000-pound fog-bell and a fog-bell striking machine which had recently been landed, and did much other minor damage. A diver was employed to search for the lost bell and striking machine, but failed to find either. The settlement of the breakwater at the site of the wharf caused by this storm was about 2 inches. A light galvanized-steel tower was erected in the place of the lost wooden one, and new lens lanterns, lamps, etc., were furnished. A striking machine was purchased, a 2,000-pound fog-bell cast, a mounting design constructed, and the apparatus was installed on May 15, 1904, in place of the bell and old striking machine. Various repairs were made. An appropriation of $30,000 was made by the act approved on June 6, 1900, for completing this work. The preparation of a design and specifications for the proposed new brick light-house is in progress. Lines of check levels run over the bench marks established on top of the new breakwater showed that the settlement during the year averaged from nothing at the northerly end to about 5 inches at the southerly end, where the proposed new light-house is to be built.

The estimate of the cost of this work was made some six years ago. Since then there has been a large increase in the price of labor and material. The experience of three years since the completion of the breakwater has proved that the site for this structure, which is at the exposed end of the breakwater, is an extremely dangerous one and subject to attacks of most violent seas. It is now found that it is impracticable to build a safe and suitable structure here for the sum appropriated. It is estimated that $20,000 more will be needed for this purpose, and the Board therefore recommends that an appropriation of this amount be made therefor.

503. Mispillion Creek, Delaware Bay, Delaware.—The topographical survey of the station made in June, 1903, was plotted. The bank sluice was repaired.

507. Murderkill Creek rear beacon, Delaware Bay, Delaware.—Negotiations for the purchase of a site were closed, deed prepared and executed, the Board's approval obtained, and settlement made.

508. St. Jones Creek front range beacon, Delaware Bay, Delaware.—The recent topographical survey of the station was platted and maps were prepared. A new lantern post was designed and erected; the post lanterns and lantern lamps were repaired.

509. St. Jones Creek rear range beacon, Delaware Bay, Delaware.—The recent topographical survey was platted.

516. Mahon River, Delaware Bay, Delaware.—The contractor for building the road to run from the light-station across the marsh to the highway began the delivery of the materials. A red sector was established, cutting the buoys at the entrance channels of Murderkill and St. Jones creeks. The iron lantern on the abandoned light-house was taken down, its parts properly marked, boxed, and stored at the Edgmoor light-house depot. The old light-station was sold at public auction. The highest bidder, however, decided to forfeit his advance payment and not take title to the property. A second public sale is to take place on July 9, 1904.

—. *Liston, front, Delaware River, Delaware.*—The deed for the site was placed on record. The boundary lines were re-run and marked

with granite monuments. A topographical survey was made, permanent transit stations and bench marks were established, and a map was platted. A test boring was made on the proposed site of the light-house. This boring was sunk to a depth of 141 feet, where a flow of potable water was found which will serve as the station supply. Plans and specifications for the light-house were begun. Plans were prepared for roads and walks. Plans and specifications for a temporary lantern post bearing a triangular latticework daymark were made, and informal contracts were made for furnishing materials.

—. *Liston, rear, Delaware River, Delaware.*—The line of the range and a series of levels were brought back from the front station; a site was staked out and purchased. A topographical survey of the site was made and platted. A temporary lantern post 100 feet high, bearing a triangular latticework daymark was designed, materials were purchased, and its erection was begun.

523. Baker front range, on the axis of the 30-foot dredged channel passing Baker Shoal, Delaware River, Delaware.—The necessary materials were boated to the site, pile foundations were put in, and the erection by hired labor of the light-house barn, oil houses, and elevated board walks was completed. The mud on the site is 79 feet deep, so that it was necessary to drive the foundation piles about 81 feet. On the foundation piles were placed concrete iron columns of sufficient height to bring the first floor level of each building and the deck level of the walks 11 feet above mean low water. The foundation columns were fastened together with diagonal tension rods, and on them was placed the frame superstructure.

524. Baker rear range, Delaware River, Delaware.—The foundation piles for the tower were driven. The necessary cement, sand, and broken stone were purchased and boated to the site, and the erection of the concrete foundation piers begun. The work of building the supporting mound about them was also commenced, and at the end of the year about 30,000 cubic feet of earth had been placed in the fill. A terra-cotta drain was laid along the line of the old ditch, underneath the base of the mound, and a temporary wire fence built about the reservation.

—. *Reedy Island front range, Delaware River, Delaware.*—The temporary lantern post was erected by hired labor. A headlight, etc., was furnished, and the light was on February 16, 1904, shone for the first time. A test boring was sunk 226 feet below the level of the marsh where a good flow of potable water was found which will serve as a supply for the station. A topographical survey of the station was made and mapped. A frame light-house, having a pile and iron column foundation, was designed and detailed drawings were made.

—. *Reedy Island rear range, Port Penn village, Delaware River, Delaware.*—The 100-foot temporary lantern post and its hoisting apparatus and daymark were prepared and erected with hired labor. The headlight lanterns, etc., were furnished and mounted, and the light was on February 16, 1904, shone for the first time. A test boring was sunk 79 feet, where a vein of potable water, yielding about 500 gallons an hour, was struck. This water rises to a level of only 9 feet below the surface of the ground, but will serve as the station supply. A complete topographical survey of the reservation was

made and mapped. A temporary oil house was erected. Plans for an 8-room light-keeper's dwelling were prepared. Plans were also prepared for a barn, an oil house, and an outhouse, and for roads and walks and for grading the grounds about the proposed buildings.

528. Old Reedy Island, rear, Delaware River, Delaware.—This light was discontinued on May 19, 1904. A wrought-iron band was placed about one of the cracked cast-iron columns of the tower.

531. Salem Creek, Delaware River, New Jersey.—The heavy flow of ice in March moved the crib about 90 feet from its foundation piles and left it partly buried in mud. The upper courses of timber were carried away, with the deck, railing, lantern post, and lens lantern. The crib was replaced upon its foundation piles, and its upper courses of timber, with deck, etc., were restored. A lamp house was built to hold extra lamps and a small supply of oil. A 20-foot lantern post was erected and two 8-day post lanterns with wicks, tins, etc., were furnished.

538. Christiana beacon, Delaware River, Delaware.—About 84 running feet of elevated walk on the jetty, which has been carried away, was replaced. Various repairs were made.

549–550–551. Horseshoe West Group, Fort Mifflin Reservation, Delaware River, Pennsylvania.—The brick oil house was completed.

555–556. Schuylkill River ranges, mouth Schuylkill River, Pennsylvania.—The brick oil house was completed. Various repairs were made.

Aids to Navigation in Delaware Bay.—The following is an extract from the Board's last annual report:

The Treasury Department, at the instance of the Senate Committee on Commerce, who asked suggestions touching the merits of the Senate bill appropriating $250,000 for establishing further aids to navigation in Delaware Bay and River, made the following reply:

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,
Washington, February 25, 1903.

SIR: This Department has the honor to acknowledge the receipt of a letter from your committee, dated February 23, 1903, inclosing a copy of Senate bill No. 7387, appropriating $250,000 for establishing further aids to navigation in Delaware Bay and River, with a request for suggestions touching the merits of the bill and the propriety of its passage.

This Department, at the instance of the Light-House Board, to whom the bill was referred, begs leave to state that with the following-named exceptions there are no objections to the bill, and its passage is recommended, with the omissions and amendments hereinafter noted.

Tenth. Five-Fathom Bank light-vessel, New Jersey: For establishing, etc.

An appropriation for this vessel has been asked of Congress elsewhere, and it is suggested that this item be omitted from this bill.

Fourteenth. Schooner Ledge range, Pennsylvania: for further substituting, etc.

Both stations in this range are in process of being equipped with new and improved illuminating apparatus. This item, therefore, should be omitted.

Sixteenth. Brammalls Point, New Jersey: For establishing a fog-signal, etc.

This matter has been under consideration by the Light-House Board for some time, and there is difficulty found in obtaining a site. It is therefore suggested that this item be so amended as to read: "For establishing a fog-signal near Brammalls Point on such side of the Delaware River as the Light-House Board may select."

Seventeenth. Harbor of Refuge, Delaware: For establishing a light-house and fog-signal, etc.

Provision has already been made for this structure and work will be commenced as soon as it can safely be done. It is therefore suggested that the seventeenth item be omitted from the bill.

Eighteenth. For establishing a light on the northwestern end of the Harbor of Refuge, Delaware.

Nineteenth. For establishing a light-house on the western end of the Delaware Breakwater.

Twentieth. For establishing a light-house and fog-signal on the east end of the Delaware Breakwater.

The Department does not recommend any legislation with regard to these three locations, as, in its opinion, suitable provision has already been made or authorized for these localities.

The Department does not suggest that any change be made in the amount appropriated in the first paragraph of this bill, namely, $250,000, as it is satisfied that the structures recommended can not be erected for that sum, but as it is not prepared at this time to make formal and exact estimates of the cost of these buildings it sees no objection to allowing the sum named in the first paragraph of the bill to remain as stated.

The structures named in the bill would seem to indicate by the order in which they stand that such is the order of their importance. The Department begs leave to suggest that the Light-House Board be authorized to construct these buildings in such order as it may find to be necessary upon further examination.

Respectfully,

O. L. SPAULDING,
Acting Secretary.

The CHAIRMAN OF THE COMMITTEE ON COMMERCE,
United States Senate.

The Board now, after further but not exhaustive study of the subject, recommends that specified aids to navigation be authorized at the following-named places, in the order named, and appropriations be made for the establishment of them, on the basis of the amounts set opposite to each name, viz:

Light-house and fog-signal on Brown Shoal	$80,000
Light-house and fog-signal on Miah Maul Shoal	75,000
Light-house and fog-signal on Elbow of Cross Ledge	75,000
Light-house and fog-signal on Joe Flogger Shoal	75,000
Light-house and fog-signal on Arnolds Point Shoal	85,000
Light-house and fog-signal on Goose Island Flats	85,000
Range lights on Old Mans Point	40,000
Range lights on Seventeen-foot Knoll and Marcus Hook	70,000
Light-house and fog-signal on Horse-Shoe Shoal	50,000
Total	635,000

The amounts are tentative, and may be varied, as borings yet to be made shall show the actual need in each case.

—. *Elbow of Cross Ledge, Delaware Bay, New Jersey.*—The act approved on April 28, 1904, appropriated $75,000 for the establishment here of a light-house and fog-signal. Preparations for making a survey of this portion of the ledge were begun.

REPAIRS.

Repairs more or less extensive were made at the following stations:

489. Absecon, Atlantic City, N. J.
490. Ludlam Beach, N. J.
491. Hereford Inlet, N. J.
494. Cape May, N. J.
498. Delaware Breakwater front, Delaware Bay, Del.
502. Harbor of Refuge beacon, Delaware Bay, Del.
504. Brandywine Shoal, Delaware Bay, Del.
505. Fourteen-foot Bank, Delaware Bay, Del.
506. Murderkill Creek front beacon, Delaware Bay, Del.
510. Maurice River, Delaware Bay, N.J.
511–512. Maurice River Range, Delaware Bay, N. J.
514. Cross Ledge, Delaware Bay, N. J.
517. Ship John Shoal, Delaware Bay, N. J.
519. Bombay Hook, Delaware River, Del.
521. Port Penn rear, Delaware River, Del.
527. Old Reedy Island, Delaware River, Del.
529. Finns Point front, Delaware River, N. J.

532. Newcastle front, Delaware River, Del.
533. Newcastle rear, Delaware River, Del.
535. Deep Water Point front, Delaware River, N. J.
535. Deep Water Point rear, Delaware River, N. J.
537. Christiana south beacon, Delaware River, Del.
539. Christiana, Delaware River, Del.
541. Cherry Island rear, Delaware River, Del.
542. Grubbs Landing, Delaware River, Del.
543. Schooner Ledge front, Delaware River, Pa.
544. Schooner Ledge rear, Delaware River, Pa.
545. Billingsport front, Delaware River, N. J.
546. Tinicum Island rear, Delaware River, N. J.
547. Fort Mifflin Bar Cut rear, Delaware River, N. J.
552–553–554. Horseshoe East Group, Delaware River, N. J.
563. Fenwick Island, seacoast of Delaware.
565. Assateague, seacoast of Virginia.
566. Fishing Point beacon, seacoast of Virginia.
567. Killick Shoal, Chincoteague Bay, Va.

OIL HOUSES.

The following is a list of stations at which oil houses were built during the last year:

555–556. Schuylkill River.
549–550–551. Horseshoe West Group.

DAY OR UNLIGHTED BEACONS.

The old Cape Henlopen daymark having been blown over during a severe storm, a new post, carrying a larger triangular lattice work, was erected.

LIGHT-VESSELS.

492. Northeast End light-vessel, No. 44, off the seacoast of New Jersey.—This iron light-vessel, which was built in 1881–82, is of 304 tons gross burden and has a steam fog-signal. On May 8, 1904, this vessel was temporarily withdrawn for repairs and the station was marked by relief light-vessel No. 16. The vessel was replaced on her station June 24, 1904, relief light-vessel No. 16 being withdrawn. Various repairs were made.

493. Five-Fathom Bank light-vessel, No. 40, off seacoast of New Jersey.—The wooden light-vessel, which was built in 1875, is of 350 tons gross burden and has a steam fog-signal. She remained on her station during the entire year. Minor repairs were made.

496. Overfalls light-vessel, No. 69, entrance to Delaware Bay, Delaware.—This self-propelling, composite steam light-vessel, which was built in 1897–98, has a displacement of about 589.50 tons, carries a steam fog-signal, and uses electric lights. She remained on her station until February 17, 1904, when, on account of the heavy ice drifting out of the bay, she was compelled to leave her station and proceed to sea, where she remained until February 19, 1904, when she proceeded to Delaware Breakwater in tow of the U. S. Revenue Cutter *Onondaga*, assisting with her own steam. She resumed her station on February 29, 1904. Various repairs were made.

562. Fenwick Island Shoal light-vessel, No. 52, off seacoast of Delaware.—This self-propelling steam light-vessel was built in 1892, is of 491 tons displacement and carries a steam fog-signal. She was temporarily withdrawn from her station for repairs on July 20, 1903, and the station was marked by relief light-vessel No. 16. She arrived at Edgemoor light-house depot on July 31, 1904, for general

repairs. The vessel was replaced on her station on September 3, 1904, relief light-vessel No. 16 being withdrawn. Various repairs were made.

564. Winter-Quarter Shoal light-vessel, No. 45, off seacoast of Virginia.—This steel, wood-sheathed light-vessel was built in 1887, is of 336 tons gross burden, and has an 8-inch chime whistle operated by compressed air. Two oil-burning engines each of 3½ horsepower, run the compressors. She remained on her station during the entire year. Various repairs were made.

—. *Relief light-vessel No. 16.*—This vessel was towed from the general light-house depot, Tompkinsville, N. Y., and temporarily relieved Fenwick Island Shoal light-vessel, No. 52, on July 20, 1903. She remained on the station until September 3, 1903, when she was replaced by light-vessel No. 52, and was returned to the general light-house depot in tow of the tender *Zizania*. On May 5, 1904, she was towed by the supply steamer *Armeria* to Northeast End station, arriving there May 6, where she temporarily replaced light-vessel No. 44. She remained there until June 24, 1904, when she was replaced by light-vessel No. 44 and towed to the Third light-house district.

FOG-SIGNALS OPERATED BY STEAM, HOT-AIR, OR OIL ENGINES.

492. Northeast End light-vessel, No. 44, New Jersey.—The 12-inch steam whistle was in operation some 276½ hours, and consumed about 14¾ tons of coal.

493. Five-Fathom Bank light-vessel, No. 40, New Jersey.—The 12-inch steam whistle was in operation some 430½ hours, and consumed about 33¾ tons of coal.

496. Overfalls light-vessel, No. 69, entrance to Delaware Bay, Delaware.—The 12-inch steam chime whistle was in operation some 603¾ hours, and consumed about 27 tons of coal.

498. Delaware Breakwater range front, Delaware.—The second-class Daboll trumpet, operated by an oil-burning engine, was in operation some 459 hours, and consumed about 168½ gallons of mineral oil.

504. Brandywine Shoal, Delaware Bay, Delaware.—The second-class Daboll trumpet, operated by an oil-burning engine, was in operation some 54¼ hours, and consumed about 34¼ gallons of mineral oil.

505. Fourteen-Foot Bank, Delaware Bay, Delaware.—The second-class Daboll trumpet, operated by a hot-air engine, was in operation some 413 hours, and consumed about 2 tons of nut coal.

562. Fenwick Island Shoal light-vessel, No. 52, Delaware.—The 12-inch steam whistle was in operation some 335.5 hours, and consumed about 42 tons of coal.

564. Winter Quarter Shoal light-vessel, No. 45, Virginia.—The 8-inch chime whistle was in operation some 385¾ hours, and consumed about 344 gallons of mineral oil.

—. *Relief light-vessel No. 16.*—On Fenwick Island Shoal station from July 21, 1903, to September 3, 1903, and on Northeast End station from May 6, 1904, to June 24, 1904. The 12-inch steam whistle was in operation some 101 hours, and consumed about 4⅜ tons of coal.

BUOYAGE.

There were maintained last year on the seacoast, from Squan Inlet, New Jersey, to Chincoteague Inlet, Virginia, 27 buoys; in Barnegat Inlet, New Jersey, 16 buoys; in Little Egg Inlet, New Jersey, 7 buoys; in Brigantine Inlet, New Jersey, 1 buoy; in Absecon Inlet, New Jersey, 6 buoys; in Great Egg Inlet and River, New Jersey, 14 buoys; in Townsend Inlet, New Jersey, 3 buoys; in Hereford Inlet, New Jersey, 5 buoys; in Delaware Bay and River and Schuylkill River, 136 buoys; in Chincoteague Inlet, Virginia, 5 buoys; in Metomkin Inlet, Virginia, 3 buoys; in all, 223 buoys.

GAS-LIGHTED BUOYS.

495. Crow Shoal gas buoy, No. 8.—This buoy was in position and continued lighted from July 1 to August 24, when it was reported extinguished, being relighted on August 26, 1903. On November 9, 1903, it was removed for the winter, a second-class iron spar similarly colored and numbered remaining to mark the station. On May 31, 1904, the gas buoy was reestablished and continued in position and lighted during the remainder of the year.

—. *Brown Shoal gas buoy.*—This gas-lighted buoy, showing a fixed white light, was established on November 15, 1903, at a point about 600 feet south-southeasterly from Brown Shoal bell buoy, No. 7, on the southerly end of Brown Shoal, entrance to Delaware Bay. It was in position and continued lighted until December 19, 1903, when it was removed for the winter. It was reestablished on March 12, 1904, and continues in position.

515. Elbow of Ledge gas buoy, No. 14.—This buoy was in position and continued lighted from July 1 to 29, 1903, when it was extinguished, but was relighted the next day. It was again reported extinguished on December 23, 1903, but it was relighted on the same day. It was again reported extinguished and dragged from its station on December 29 and 31, 1903, when it was removed in a damaged state to await more favorable ice conditions, an iron spar similarly colored and numbered remaining to mark the station. On March 12, 1904, the gas buoy was reestablished, and continues in position.

522. Ridge gas buoy, No. 17.—This buoy was in position and continued lighted from July 1 to December 19, 1903, when it was removed for the winter season. An iron spar buoy similarly colored and numbered marked the station until March 25, 1904, when the gas buoy was reestablished and still continues in position.

—. *Baker Shoal gas buoy, No. 20.*—This gas-lighted buoy, showing a fixed white light, was established on May 10, 1904, being substituted for the first-class iron spar to better mark Baker Shoal for light-draft vessels using Finns Point range, and still remains in position.

525. Reedy Island gas buoy, No. 17 B.—This buoy was in position and continued lighted from July 1 to December 19, 1903, when it was removed for the winter season, an iron spar similarly colored and numbered remaining to mark the station. On May 10, 1904, the gas buoy was permanently discontinued, a second-class iron spar buoy taking its place.

526. Baker Shoal upper gas buoy, No. 20 A.—This buoy was in position and continued lighted from July 1 to December 19, 1903, when it was removed for the winter season, an iron spar similarly colored and numbered remaining to mark the station. On May 10, 1904, the gas buoy was permanently discontinued and a first-class iron spar buoy took its place.

534. Goose Island Flat gas buoy, No. 26.—This buoy was in position and continued lighted from July 1 to July 17, 1903, when it was reported extinguished. It was relighted on July 18, when it continued in position until December 19, 1903, when it was removed for the winter season, an iron spar similarly colored and numbered remaining to mark the station. It was reestablished on March 17, and it continues in position.

LIGHT-HOUSE DEPOTS.

Tucker Beach, New Jersey.—This depot is used when needed for the storage of buoys and appendages for Little Egg Inlet, New Jersey. It is in good condition.

Absecon, Atlantic City, N. J.—This depot is used for the storage of buoys and appendages for inlets in that vicinity. It is in good condition.

Edgemoor, Delaware River, Delaware.—This depot is the main light-house depot of the Fourth light-house district, and is used for the storage of buoys and supplies and as a berth for the tender *Zizania.* On account of the large quantity of valuable material stored here it is most desirable that the keeper should live on the premises.

The following recommendation was made in the Board's last seven annual reports:

The keepers of this depot are now obliged to live in Wilmington, about 4 miles distant. It is estimated that a suitable dwelling and necessary outbuildings can be built for not exceeding $5,000. Recommendation is therefore made that an appropriation for this amount be made therefor.

The following recommendation made in the Board's last four annual reports is renewed:

The Board estimates that, as prices are at the present time, it will cost $6,000, and recommendation is therefore made that an appropriation of this amount be made therefor.

Lewes, Del.—The two boathouses with the boat-hoisting apparatus were completed. These boathouses are located on the Government wharf, a portion of which has been set aside by the War Department for the use of the Light-House Establishment.

Cape May boathouse, Cape May, N. J.—This boathouse is used in caring for the boats, sails, etc., from light-vessels Nos. 40 and 44 when the officers and crews are on leave. The building is in fair condition. The basin for the boats needs dredging and the house needs painting and slight repairs, which will be done by the force from the vessel while on shore.

Chincoteague, Chincoteague Island, Virginia.—The building is used for the storage of buoys and appendages for the inlets in that vicinity and by Winter Quarter Shoal light-vessel, No. 45, for the care of sails, oars, etc., when the officers and crew from that vessel are on shore leave.

LIGHT-HOUSE TENDERS.

Zizania.—This steel twin-screw steamer was built in 1887–88, and is of about 417 tons gross burden. Except during the 81 days she was laid up for repairs she was employed in attending to the buoyage of the district, in delivering rations, fuel, and supplies to light-vessels and light-stations, and in conveying the inspector on inspection duty. She established 7 buoys, changed 191, replaced and restored 24, renewed 31, lifted and painted 29, shifted 2, removed 10, and recovered 2 buoys. One trip was made for the purpose of relighting a gas buoy which had been accidentally extinguished. She delivered some 634 tons of coal and 4½ cords of wood to light-vessels, and some 153 tons of coal and 10 cords of wood to light-stations; also the annual allowance of provisions to 5 light-vessels and 11 light-stations and all necessary extra supplies to vessels and stations. On July 16, 1903, she went to the general light-house depot at Tompkinsville, N. Y., returning on July 17, with relief light-vessel No. 16 in tow, to replace light-vessel No. 52 on Fenwick Island Shoal Station. On July 20, 1903, she removed light-vessel No. 52 from her station for repairs, bringing her to Edgemoor light-house depot. On September 3, 1903, she returned light-vessel No. 52 to her station, and towed relief light-vessel No. 16 to the general light-house depot, returning with supplies on September 7, 1903. On May 6, 1904, she removed Northeast End light-vessel No. 44 from her station for repairs, and on June 24, 1904, she returned light-vessel No. 44, taking light-vessel No. 16 in tow and proceeding to the general light-house depot, whence she arrived at Edgemoor light-house depot, with supplies, on June 26, 1904. In doing this work, she steamed about 12,326 miles, consuming some 1,071 tons of egg coal, 8¼ cords of pine wood and 337 gallons of lubricating oil. Some 45 hours' work was done at Edgemoor light-house depot, and some 55 hours' work at the Iron Pier, Lewes, Del. Various repairs were made.

Tender for the inspection and maintenance of the lights and buoy service in the Fourth light-house district.—The following statement was made in the Board's last annual report:

> There is needed in this district a stanch seagoing steamer, able to take care of herself, and the light-vessels she may have in tow, in any weather. The tender *Zizania* now on duty in this district, which was built in 1887–88, is no longer sufficiently seaworthy to send safely with a light-vessel in tow to the ocean light-vessel stations off Cape May, Winter Quarter Shoal, and the other light-vessel stations off the ocean coast of New Jersey, and with or for gas buoys around to the general light-house depot at Staten Island. The last survey of the *Zizania* showed that it would take about 50 per cent of her cost to put her in such condition as would enable her temporarily to do her work with safety. The Board does not think it would be economical to rebuild her under such conditions. Meantime, whenever the *Zizania* goes to the ocean coast, the lives of her officers and crew are put in hazard. If the appropriation asked is made at this session of Congress, the new tender can hardly be ready for duty before the *Zizania* will have gone out of use. It is estimated that a tender suitable to take t[illegible] the *Zizania* can be built for $125,000, and the Board recommends th[illegible]tion of this amount be made therefor.

The act [illegible]ril 28, 1904, appropriated $50,000 for this tender, a[illegible]ntract not to exceed $125,000 for its com-

pletion. The Board therefore recommends that an appropriation of $75,000 be made to satisfy this contract.

Launch Leal.—Various minor repairs were made to the engine of this gasoline launch, and her hull, deck, etc., painted. She was employed in towing scow No. 1, on which the materials for the new buildings at Baker front light-station were transported, and assisted in the general repair work of the district.

Scow No. 1.—This small scow was recalked and repainted. She was employed in transporting materials required for the construction of the new buildings at Baker front light-station.

FIFTH DISTRICT.

This district extends from, but does not include, Metomkin Inlet, Virginia, to and including New River Inlet, North Carolina. It embraces all aids to navigation on the seacoast of Virginia and North Carolina between the limits named, all of Chesapeake Bay, the sounds of North Carolina, and tributary waters.

Inspector.—Commander John M. Hawley, U. S. Navy, to April 16, 1904; Commander Henry McCrea, U. S. Navy, from that date.

Engineer.—Col. William A. Jones, Corps of Engineers, U. S. Army.

In this district there are:

Light-houses and beacon lights, including 34 post lights	192
Light-vessels in position	4
Light-vessel for relief	1
Day or unlighted beacons	19
Fog signals operated by steam, caloric, or oil engines	10
Fog signals operated by clockwork	67
Whistling buoy in position	1
Bell buoys in position	10
Gas-lighted buoys in position	3
Other buoys in position, including pile buoys and stakes	1,182
Steamers *Maple*, *Holly*, and *Violet*, buoy tenders, and for supply and inspection	3
Steamer *Juniper* and launch *Bramble*, used to supply gas to beacons in sounds of North Carolina, and to attend to stakes in Core Sound	2
Sharpie and gas-tank barge for supplying beacons and coast stations	2
Steamers *Jessamine* and *Thistle*, for construction and repair	2

LIGHT-STATIONS.

568. Hog Island, seacoast of Virginia.—The addition to the landing wharf, 294 feet long, which had been carried away during a heavy storm, was rebuilt. Various repairs were made.

573. Thimble Shoal, Hampton Roads, Chesapeake Bay, Virginia.—The blower-siren fog-signal, after more than a year's trial, was not found efficient, the sound produced being too feeble. An engine of greatly increased power, geared to an air compressor, was accordingly installed.

—. *Norfolk Harbor, Virginia.*—The following is a copy of a letter, dated January 8, 1903, from the Secretary of the Treasury to the Speaker of the House of Representatives:

This Department, at the instance of the Light-House Board, has the honor to recommend that an appropriation of $44,500 be made for the establishment of aids to navigation in Norfolk Harbor, Virginia, as follows:

1. For the establishment of a caisson lighted beacon at the front site of the bay, or Craney Island range, Elizabeth River, Virginia, about five-eighths of a mile north of Craney Island $15,000
2. For the establishment of a front lighted beacon on the site of the river range, Elizabeth River, Virginia, about three-fourths of a mile south of Craney Island 15,000
3. For the establishment of a lighted pile beacon at the site of the rear of the bay range, Elizabeth River, Virginia, about 1 mile west of Craney Island 7,000
4. For the erection of light-keepers' dwellings and outbuildings at Craney Island, Elizabeth River, Virginia 6,000
5. For the erection of an oil house at Craney Island, Elizabeth River, Virginia 500
6. For the erection of a wharf at Craney Island, Elizabeth River, Virginia 1,000

Letters have been received from the Norfolk Chamber of Commerce, from the Board of Trade, and the Business Men's Association of Norfolk, and from sundry merchants interested in the commerce of Norfolk, stating that it is a common occurrence for vessels to be delayed because the channel at the harbor is narrow and poorly lighted, and urging the establishment of such lights as are necessary for their proper guidance. These papers were referred to the local officers of the Board, who after careful examination made report and suggestions upon which this recommendation is based.

The Board therefore renews its recommendation that an appropriation of $44,500 be made for the establishment of aids to navigation in Norfolk Harbor, Virginia.

581. Naval Hospital, Elizabeth River, Virginia.—Dredging operations in the harbor of Norfolk, Va., for the purpose of widening the channel, having reached the extremity of Hospital Point, on which this station was situated, the light was, on April 30, 1904, discontinued.

584. White Shoal, James River, Virginia.—In November the old fog-bell striking apparatus was replaced by a new one.

595–596. Sunken Marsh range post lights, James River, Virginia.—The trees in front of the rear light, which obstructed the range, were cut down. Two steel skeleton structures, 20 feet high, were erected, and two locomotive headlights were substituted for the post lanterns, in order to improve the visibility of the lights. The new lights were shown on June 15, 1904, for the first time.

619. Back River, Chesapeake Bay, Virginia.—The concrete protection wall around the keeper's dwelling was completely wrecked on the sea front. Temporary props were set in against that portion of the old wall still standing, and sheet piles were put in in front of the wall to prevent the seas from undermining it. A bulkhead about 459 feet long, composed of sheet piling, backed by round piles 16 feet long, was built along the front and sides of the dwelling, outside of the lines of the old concrete wall. Fifty-five pine piles and 30,440 feet of lumber were used, 88 screw bolts, 85 drift bolts, 4 strap bolts, and 38 iron washers were made for securing the timbers in place. The piles and timber were coated with a wood preservative before placing in position. The elevated walk to the tower, 144 feet long, leading from the dwelling, was rebuilt. About 135 running feet of fence was built. During a very severe storm in October, about two weeks after the construction of the bulkhead had been commenced, the dwelling and the elevated walk leading to the tower narrowly escaped destruction. The repair party, by working day and night for three

days, succeeded in saving the dwelling and supporting the walkway so that the light might be maintained. Seas dashed to a height of 14 feet against the porch of the dwelling and moved from their places large stones near the tower. The tin roof was partly torn from the dwelling, and the gutters and down spouts were carried away. The tender *Thistle* parted her anchor lines and went ashore, with a quantity of lumber, which had to be thrown overboard in order to float her, but which was subsequently recovered. She was considerably damaged. The pile driver also went aground well up on the beach, but was afterwards floated without damage. Extensive general repairs were made.

638. Spinhouse Point Shoal beacon, Rappahannock River, Virginia.—This structure, damaged by the ice during the past winter, was rebuilt in June.

653. Kitts Point beacon, No. 1, entrance to Smith Creek, Potomac River, Maryland.—This structure, carried away by the ice, was rebuilt in June.

—. *Ragged Point, Potomac River, Virginia.*—The following recommendation, made in the Board's last eight annual reports, is renewed:

> This shoal makes off from the west bank of the river at a short turning point. It is important that this point be marked by a light at night and a fog signal during thick weather. It is estimated a light and fog-signal station can be established here for $20,000, and it is recommended that an appropriation of this amount be made therefor.

The following statement, made in the Board's last annual report, is renewed:

> The price of material and labor has increased to such an extent since the estimate for this work was made, some six years ago, that the Board now estimates that it will cost not exceeding $30,000 to establish this light station, and it now recommends that an appropriation of this amount be made therefor.

659. Icehouse Point beacon, Nomini Creek, Potomac River, Virginia.—This structure, damaged by ice during the past winter, was rebuilt in June.

666. Maryland Point, Potomac River, Maryland.—In March, 1904, the fog bell, which had been dislodged from its position by vibration produced by the impact of moving ice, was replaced. Various repairs were made.

671. Point No Point, west side of Chesapeake Bay, between Potomac and Patuxent rivers, Maryland.—On June 30, 1903, the caisson, with the single course of cylinder plates remaining after the accident which occurred during the attempt to sink the structure at the site, had been towed back to the Patuxent River and anchored off Solomons, Md., the most convenient harbor and the contractors' base of operations since the commencement of the work. Two courses of plates to replace those lost were set in place and the structure was otherwise prepared for a second attempt to place it on the site. With a draft of 19 feet 4 inches it was towed from Solomons on the night of October 21, 1903, and was grounded at the site in its correct position on the next afternoon. On October 23 about 225 tons of riprap stone was deposited around it to prevent scour. The contractors then commenced to rebuild their construction pier and workmen's

quarters and had completed this work; had placed in position two additional courses of cylinder plates, making in all five courses in place, with the exception of four plates of the upper course which had been omitted for convenience of passageway; had set the forms for sand and stone pockets and had brought the height of concrete in the cylinder to within 3 inches above the third course of plates, when, in February, 1904, the pier was carried away by a heavy field of moving ice, together with the air compressor, the boiler, a section of the air shaft, four cylinder plates, the workmen's quarters, some cement, broken stone, sand, and small tools. The boiler and two of the plates were recovered. The cylinder or caisson suffered but little damage. In March the contractors began the erection of the third construction pier since commencing operations and completed it in May. In the meantime they intermittently continued the deposit of concrete in the cylinder. They commenced sinking the caisson on June 2. By the end of June the structure had penetrated 13 feet and the surface of the concrete was 9 inches below the top of the fifth course of cylinder plates, except at the spaces occupied by the sand pockets, where it was even with the top of the pockets. The two plates needed to complete the sixth course have been received at the site and a part of that course has been set in place. The third course of plates to replace those lost or badly damaged have been ordered by the contractors and are now being made.

—. *Chester River, Maryland.*—The following recommendation, made in the Board's last four annual reports, is renewed:

Three sets of range lights are needed on this river near the upper end of Swan Point, as there is a bar in this part of the river, with a narrow channel between it and the mainland, making navigation at night dangerous. It is estimated that these range lights can be established for not exceeding $3,000, and it is therefore recommended that an appropriation of that amount be made therefor.

689–691. Queenstown Creek beacons, Chester River, Chesapeake Bay, Maryland.—Beacons Nos. 1 and 2 were destroyed by the ice on February 25. They were rebuilt in June.

692. Baltimore, Craighill Channel, mouth of Patapsco River, Maryland.—Contract was made for the erection of this light-house. Early in the spring of 1904 materials were assembled at Baltimore for the construction of the wooden caisson and on May 9 the contractor laid the first course of timbers. By the end of June he had twelve courses in place and had set up the five steel working shafts. The structure is ready for launching as soon as the ways are completed and the necessary power can be obtained. The construction by contract of the metal work required for the light-house was in progress. On June 30, 1904, six sections or courses of the foundation cylinder had been delivered at the Baltimore light-house depot. The seventh, eighth, ninth, tenth, and eleventh sections had been set up at the contractors' shops, inspected, taken down, and painted. The twelfth and thirteenth sections were out of the sand and ready to be set up. The lantern and gallery railing were set up at the shops, inspected, and packed, ready for shipment.

By act approved on April 28, 1904, Congress appropriated the $60,000 needed to complete the light-house.

710. Bodie Island, seacoast of North Carolina.—Various repairs

were made. The following recommendation, made in the Board's last four annual reports, is renewed:

There is but one dwelling at this station for the keeper and his two assistants, and it is impossible for them to have their families with them because of the lack of sufficient and proper accommodations. This fact does not tend to make the keepers contented or to induce that degree of interest in the station on their part necessary to maintain it in the best condition. It is estimated that an additional dwelling, with cisterns and the necessary outhouses, can be built for a sum not exceeding $7,500, and it is recommended that an appropriation of this amount be asked therefor.

The following was added in the Board's last annual report:

The isolated position of this station and the consequent expense of transporting materials make it necessary to estimate for a larger amount than would be required for a place more convenient of access.

714. Ocracoke, seacoast of North Carolina.—A small woodshed was built in January. Some 324 running feet of fencing was erected. Various repairs were made.

—. Reimbursement to owners of schooner Bayard Barnes.—The following extract from the Board's last annual report is renewed:

On December 27, 1902, light-vessel No. 71, in spite of the best efforts of her officers and crew, drifted down upon the schooner *Bayard Barnes*, inflicting on her damages which were repaired by an expenditure of $12 on the part of the owners of that vessel. Under a decision of the Comptroller of the Treasury, volume 1, page 261, this amount is considered as an unliquidated damage and can not be paid by the Department. The Board therefore asks that the proper measures may be taken to have $12 appropriated for the reimbursement of the owners of that vessel for the damage caused by the collision between it and this light-vessel.

715. Cape Lookout, seacoast of North Carolina.—In April a wire fence was built around the premises. By act approved on April 28, 1904, Congress appropriated $5,000 for the construction here of a keeper's dwelling. Plans for the structure are being prepared.

731. North River, Albemarle Sound, North Carolina.—A water tank was put in place. The old fog-bell apparatus was taken down and a new machine was substituted. Various repairs were made.

734–735. Scuppernong River range beacons, Albemarle Sound, North Carolina.—In February two wooden 3-pile structures, with six horizontal braces or slats each, and surmounted by square service boxes, painted red, were erected in about 10 feet of water. The lights from these structures were shown for the first time on April 1, 1904. The front light is a fixed white post-lantern light, 16 feet above the water. The rear light is a fixed white light of the same kind, 20 feet above the water. The two in range mark the axis of the channel entering Scuppernong River from Albemarle Sound.

737. Mackays Creek beacon, Albemarle Sound, North Carolina.—A beacon composed of three wooden piles, with six horizontal slats on each side and a square service box on top, all painted black, was erected in 8 feet of water on the easterly side of the dredged cut at the entrance to Mackays Creek, southerly side of Albemarle Sound. The light was shown for the first time on April 1, 1904. It is a fixed white post-lantern light, 16 feet above the water.

738–739. Edenton Harbor range, Albemarle Sound, North Carolina.—Two new lamp boxes were provided preparatory to the installation of lens lanterns with reflectors in place of the post lanterns in use. Minor repairs were made. On November 1, 1903, this change

in lanterns was made and at the same time the characteristic of the light was changed from fixed red to fixed white.

746–747. Cape Channel beacons, southeasterly side of Pamlico Sound, North Carolina.—Two wooden three-pile structures were erected, with horizontal slats on sides and service boxes on top, for fixed white post-lantern lights, 16 feet above the water, to guide from Pamlico Sound through the channel into the anchorage behind Cape Hatteras light-house. North Point beacon structure was painted black and Muddy Slue beacon structure red. These structures have not yet been lighted.

748. Hatteras Inlet, Pamlico Sound, North Carolina.—On February 18, 1904, the characteristic of this light was changed from flashing red to fixed red. A fuel platform was suspended under the house by iron hangers. A walkway was laid from the ladder landing to the platform, one end of which was bolted to the platform and the other hung to a brace of the substructure. Various repairs were made.

750. Bluff Shoal, Pamlico Sound, North Carolina.—On June 30, 1903, the contractor had assembled at a point near the site most of the materials for building this light-house and had begun the construction of a working pier or platform. This was completed on July 20, and the metal work was landed on it five days after. The driving of the foundation piles was finished on August 13. The framing of the wooden superstructure was commenced August 17 and the entire structure was completed by the middle of December, 1903. The structure consists of a square one-story wooden dwelling, resting on five wrought-iron piles—one in the center and the other at the angles—and surmounted by an iron lantern with copper roof. The light was shown on January 15, 1904, for the first time. It is flashing red of the fourth order, with a focal plane 38 feet above mean high-water. A bell struck by machinery every 15 seconds is sounded during thick or foggy weather.

—. *Ocracoke beacons, Ocracoke Inlet, North Carolina.*—Three structures, composed of three wooden piles each, braced by pine slats and surmounted by wooden service boxes, were erected in March and April, 1904, in 7 feet of water, to support fixed white post-lantern lights, 16 feet above the water, marking the entrance from Ocracoke Inlet to Pamlico Sound through the Swash. The structures have not yet been lighted.

752. Northwest Point Royal Shoal, Pamlico Sound, North Carolina.—After the lighting of the new station at Bluff Shoal this light was discontinued, and the lens, pedestal, lamps, and chimneys were removed for use at Hatteras Inlet light-station. The structure remains to serve as a daymark.

753. Harbor Island Bar, Pamlico Sound, North Carolina.—On February 14, 1904, the characteristic and order of this light were changed from flashing red of the fifth order to fixed red of the sixth order. The lens apparatus was removed and replaced by one in store. Minor repairs were made.

768. Maw Point Shoal beacon, Neuse River, North Carolina.—A fixed white post-lantern light was built 16 feet above the water. A wooden 3-pile structure, with six horizontal slats, and a service box on top, painted black, was erected to mark the entrance into Bay River from Neuse River. The structure has not yet been lighted.

REPAIRS.

Repairs more or less extensive were made at the following-named stations:

570. Cape Charles, on Smith Island, Va.
571. Cape Henry, Va.
574. Old Point Comfort, Va.
579. Craney Island, near mouth of Elizabeth River, Va.
580. Lambert Point fog-signal station, Va.
582. Newport News Middle Ground, Hampton Roads, Va.
583. Nansemond River near Pig Point, Va.
587–588. Burwells Bay range post-lights, James River, Va.
592–593. Goose Hill Channel range post-lights, James River, Va.
603. Jordan Point, James River, Va.
610–611. Dutch Gap Cut-off, James River, Va.
620. York Spit, entrance to York River, Va.
628. Old Plantation Flats, Va.
629. Cherrystone, entrance to Cherrystone Inlet, Va.
630–631. Cape Charles City range, Va.
633. Cape Charles City Harbor, northern, Va.
635. Wolf Trap, easterly end Wolf Trap Spit, Va.
648. Somers Cove, Little Annemessex River, Md.
651. Smith Point, mouth Potomac River, Va.
652. Point Lookout, entrance Potomac River, Md.
658. White Point beacon, Nomini Creek, Va.
663. Lower Cedar Point, Potomac River, Md.
667. Fort Washington, Potomac River, Md.
673. Sharkfin Shoal, Tangier Sound, Md.
674. Hooper Strait, entrance Tangier Sound, Md.
675. Hooper Island, easterly side Chesapeake Bay, Md.
676. Cedar Point, entrance Patuxent River, Md.
677. Drum Point, entrance Patuxent River, Md.
678. Cove Point, above entrance Patuxent River, Md.
687. Sandy Point, off Sandy Point, Md.
689–691. Queenstown Creek beacons, Md.
693. Craighill Channel range front, Md.
694. Craighill Channel range, rear, Md.
695. Seven-Foot Knoll, mouth Patapsco River, Md.
701. Lazaretto Point, Baltimore Harbor, Md.
709. Currituck Beach, seacoast of N. C.
710. Bodie Island, seacoast of N. C.
711. Cape Hatteras, seacoast of N. C.
712. Cape Hatteras beacon, near southerly extremity of cape, N. C.
716. Wreck Point beacon, seacoast of N. C.
718–728. Gas-lighted beacons in North Landing River, Va., and Currituck Sound and North River, N. C.
736. Laurel Point, Albemarle Sound, N. C.
740. Roanoke River, Albemarle Sound, N. C.
742. Croatan, between Croatan and Albemarle sounds, N. C.
744. Roanoke Marshes, between Pamlico and Croatan sounds, N. C.
745. Long Shoal, Pamlico Sound, N. C.
749. Gull Shoal, Pamlico Sound, N. C.
751. Southwest Point Royal Shoal, Pamlico Sound, N. C.
754. Brant Island Shoal, Pamlico Sound, N. C.
767. Point of Marsh beacon, Neuse River, N. C.
769. Neuse River, entrance to Neuse River, N. C.
771. Wilkinson Point Shoal beacon, Neuse River, N. C.

—. *Pungoteague Creek, Chesapeake Bay, Virginia.*—The following is a copy of a letter dated December 24, 1903, from the Secretary of Commerce and Labor to the Secretary of the Treasury:

This Department, at the instance of the Light-House Board, has the honor to recommend that an appropriation of $8,000 be made for the establishment of a lighted beacon at the mouth of Pungoteague Creek, Chesapeake Bay, Virginia, or near the sight occupied by a lighted beacon, which was established on November 1, 1854, and was carried away on February 2, 1856, and which has not been replaced.

The reestablishment of this lighted beacon is recommended in a petition of many vessel men, which was transmitted to this office by the superintendent of the Baltimore, Chesapeake and Atlantic Railway Company, through the inspector of the Fifth light-house district.

A private light is now maintained near the mouth of Pungoteague Creek.

It is the opinion of the Light-House Board, in which this Department concurs, that as a light is so much needed here that it is maintained at private expense, it is evident that the Government should establish and maintain such a light, in the interests of general commerce.

DAY BEACONS.

The day beacons in this district are in fair condition.

LIGHT-VESSELS.

569. Cape Charles light-vessel, No. 49, off entrance to Chesapeake Bay, Virginia.—This composite light-vessel was built in 1890–91, has a displacement of about 470 tons, and has a steam fog-signal. On July 21, 1903, she was towed to the Portsmouth, Va., light-house depot, and on September 6, 1903, she was put back on her station. On October 11, 1903, the riding stopper having been broken, and it being impossible to hold the moorings, they were slipped and the vessel then went to sea, and was picked up by light-vessel No. 71. She was taken in to the Portsmouth light-house depot. On November 28, 1903, she was replaced on her station. Various repairs were made.

572. Tail of the Horseshoe light-vessel, No. 46, lower part of Chesapeake Bay, Virginia.—This steel wood-sheathed light-vessel was built in 1887, is of 337 tons gross burden, and has a steam fog-signal. She remained on her station during the entire year. Two new boilers for this vessel are nearly completed, and soon will be placed on board.

578. Bush Bluff light-vessel, Elizabeth River, below Norfolk, Va.—The composite schooner *Drift*, of about 87 gross tons burden, which was borrowed from the Coast and Geodetic Survey, and which is used to mark this station, remained there during the entire year.

713. Diamond Shoal light-vessel, No. 71, off the outer shoals off Cape Hatteras, North Carolina.—This steam composite self-propelling light-vessel, built in 1897–98, has a displacement of about 589 tons, is equipped with a 12-inch steam whistle, and displays two electric lights. In July, 1903, she relieved light-vessel No. 72 at Diamond Shoal, and remained until October 1, when she came under her own steam to Baltimore, where she remained until October 14, when she went to Cape Charles, Va., as relief for light-vessel No. 49, which had been driven from her station and required repairs. While here the lost moorings of light-vessel No. 49, consisting of a 5,000-pound anchor and 120 fathoms of 2-inch chain, were recovered by dragging with a kedge anchor. She was relieved by light-vessel No. 49 on November 29, and went to Baltimore. When off the mouth of the great Wicomico River, Va., the connecting rod broke, wrecking the cylinder and steam chest. She was towed to Baltimore, where she was repaired. On February 28, 1904, she relieved light-vessel No. 72 at Diamond Shoal. Various repairs were made.

713. Diamond Shoal light-vessel, No. 72, off the outer shoals off Cape Hatteras, North Carolina.—This steel steam self-propelling light-vessel was built in 1900, has a displacement of about 538 tons, is equipped with a 12-inch steam whistle, and shows two electric lights.

She was relieved on July 1, 1903, and steamed to the Portsmouth, Va., light-house depot, where she remained until July 20, when she steamed to Cape Charles and relieved light-vessel No. 49. On September 6 she was relieved, and on September 13 went to Norfolk, Va. She then went to Diamond Shoal on October 1, relieving light-vessel No. 71. She remained there until February 28, 1904, with the exception of an absence of five hours, on February 24, on account of the parting of the mooring chain in a gale of wind. When relieved on February 28 she came to the Portsmouth light-house depot. The damage done to her by the schooner *Joel F. Sheppard*, by collision, while on her station, was paid for by the owners. On May 11 this light-vessel went to Baltimore, where she remained until June 28, when she left for Diamond Shoal to relieve light-vessel No. 71. She received needed fitments, supplies, and proper repairs.

FOG-SIGNALS OPERATED BY STEAM, CALORIC, OR OIL ENGINES.

569. Cape Charles light-vessel, No. 49, entrance to Chesapeake Bay, Virginia.—This 12-inch steam whistle was in operation some 160 hours, and consumed about 21 tons of coal.

571. Cape Henry, south side of the entrance to Chesapeake Bay, Virginia.—This first-class siren was in operation some 902 hours, and consumed about 13 tons of coal.

572. Tail of the Horseshoe light-vessel, No. 46, entrance to Chesapeake Bay, Virginia.—This 12-inch whistle was in operation some 132 hours, and consumed about 7 tons of coal.

573. Thimble Shoal, northerly side of channel to Hampton Roads, Virginia.—This compressed-air siren was in operation some 206 hours, and consumed about 65 gallons of mineral oil.

635. Wolf Trap, west side of Chesapeake Bay, Virginia.—This second-class Daboll trumpet was in operation some 280 hours, and consumed about 143 gallons of mineral oil.

651. Smith Point, entrance to Potomac River, Virginia.—This second-class Daboll trumpet has been in operation some 252 hours, and consumed about 257 gallons of mineral oil.

678. Cove Point, west side of Chesapeake Bay, Maryland.—This second-class Daboll trumpet was in operation some 223 hours, and consumed about 210 gallons of mineral oil.

713. Diamond Shoal light-vessels, Nos. 71 and 72, seacoast of North Carolina.—These 12-inch steam whistles were in operation about 184 hours, and consumed some 8 tons of coal.

744. Roanoke Marshes, west side of Pamlico Sound, North Carolina.—This compressed-air siren was in operation some 206 hours, and consumed about 65 gallons of mineral oil.

LIGHT-HOUSE DEPOTS.

—. *Lazaretto Point, Baltimore Harbor, Maryland.*—The buoys and appendages for the upper part of Chesapeake Bay and tributaries are kept here.

The following recommendation, made in the Board's last fourteen annual reports, is renewed:

Attention is invited to the necessity of providing a dwelling at this depot for the accommodation of the depot keeper and his family. Their quarters in the warehouse are unsuitable and uncomfortable, and, even were the rooms not

required for other purposes, it would cost nearly as much to make them comfortably habitable as it would to build a new dwelling. About one-third of the space on the upper floor is reserved for the use of custom-house inspectors, and the large and increasing amount of work on hand in the district demands the use of all storage and shop room available. The depot keeper must be constantly on the spot, and can not live away from the premises. There is ample room on the Government tract for such a building as is required, and it can be built for $2,500. An appropriation of this amount is earnestly recommended.

—. *Portsmouth, Elizabeth River, Virginia.*—Buoys and appendages are kept here for the lower part of Chesapeake Bay and tributary rivers, and also all supplies for this light-house district. In September gas piping and fixtures were installed in the custodian's dwelling.

—. *Annapolis, Annapolis Harbor, Maryland.*—Buoys are kept for that portion of Chesapeake Bay between Sandy Point and the Patuxent River. In April the plastering was repaired and one of the rooms in the custodian's dwelling was papered.

—. *Point Lookout, mouth of Potomac River, Maryland.*—The repairs and improvements at this depot, commenced in June, were completed in September, 1903. Buoys and appendages for the middle section of Chesapeake Bay are kept here.

—. *Light-house wharf, Washington, D. C.*—Attention is invited to the following statement from the Board's last annual report:

The old wharf at O and Water streets, Washington, D. C., belonging to the Government, was temporarily repaired for use by the Light-House Establishment. An examination of this wharf showed that it was in such bad condition that only minor repairs were then advisable, and they were made, so that temporarily the wharf is in usable condition. To make it suitable for the reception and temporary storage of material, such as buoys, etc., its complete rebuilding will be required, as the sills, joists, and piles show much decay.

The Board now estimates that this wharf can be put in proper condition for $30,000, and it recommends that an appropriation of this amount be made therefor.

—. *Washington, Pamlico River, North Carolina.*—Buoys and appendages for the sounds of North Carolina are kept here.

LIGHT-HOUSE TENDERS.

Maple.—This steel twin-screw steamer was built in 1892–93, and has a displacement of about 551 tons. She was actively employed during the entire year, steaming about 13,668 miles on a consumption of about 1,302 tons of bituminous coal. She ran 5,000 miles less than the year before, and used within 90 tons as much coal. She was employed 46 days on inspection duty, 97 days in working buoys and attending to light-vessels, 96 days in delivering fuel, rations, and supplies to light-houses and vessels, 102 days at light-house depots, coaling, loading supplies and buoys, and doing other necessary work, and she was 25 days under repair. She worked 437 buoys, visited 184 stations and vessels, delivered 278 tons of coal and 115 cords of wood to light-houses and light-vessels, inspected 112 stations, supplied 44 stations with rations, and the crew was employed 12 days at light-house depots, cleaning and painting buoys. She received needed fitments, supplies, and repairs.

Holly.—This iron side-wheel steamer was built in 1881, was rebuilt and sheathed with wood in 1898, and is of about 367 tons gross burden. She was employed on inspection, supplying lights, changing

and replacing buoys, and attending to light-vessels. She steamed some 11,576 miles on a consumption of about 950 tons of bituminous coal. She was employed 98 days on inspection duty; 71 days working buoys and attending light-vessels; 31 days delivering fuel, rations and supplies to stations and vessels; 141 days at light-house depots, coaling, loading supplies and buoys, and doing necessary work, and she was 25 days under repair. She worked 211 buoys, visited 240 light-stations and vessels, delivered 127 tons of coal and 60 cords of wood, inspected 180 light-stations, supplied 18 stations with rations, and her crew was employed 20 days at light-house depots, cleaning and painting buoys. She received needed fitments, supplies, and repairs.

Violet.—This wooden side-wheel steamer was built in 1861, and is of about 231 tons gross burden. She did the entire work of supplying lights, working buoys, and inspecting lights in the sounds of North Carolina, excepting the delivery of rations in the fall, besides doing much work in the other parts of the district. She steamed about 6,252 miles on a consumption of about 433 tons of bituminous coal. She was employed many days on inspection duty; 76 days working buoys and attending to light-vessels; 46 days delivering fuel, rations, and supplies to light-stations and vessels; 56 days at depots, coaling, loading supplies and buoys, and doing other necessary work, and was 156 days under repair. She worked 517 buoys, visited 86 light-houses and light-vessels; delivered 107 tons of coal and 53 cords of wood for stations and vessels, inspected 38 stations, delivered 25,000 cases of mineral oil, and the crew was employed 40 days at light-house depots cleaning and painting buoys. She received needed fitments, supplies, and repairs.

Juniper.—This twin-screw steamer, built in 1903, is of about 84½ tons gross burden. She was placed in commission on September 7, 1903, and since that time has steamed about 1,796 miles on a consumption of some 108 tons of bituminous coal. She delivered 68,134 cubic feet of gas to beacon lights, put up 15 new stakes, repaired 31 stakes, and painted 43 stakes in Core Sound, North Carolina, as well as attended to the buoys in Beaufort Harbor. Various repairs were made.

Bramble.—This twin-screw launch, built in 1879, is of about 32 tons gross burden. During the past year she assisted the *Juniper* in attending to the gas beacons in the sounds of North Carolina, and in so doing steamed some 663 miles on a consumption of about 17 tons of coal. She delivered 15,290 cubic feet of gas to beacon lights.

The Sharpie.—This vessel and the gas-tank barge are kept at Long Point, North Carolina. The *Sharpie* is out of repair, and the gas-tank barge is so much worn-out that she is unfit for repair.

Jessamine.—This iron side-wheel steamer was built in 1881, and is of 257 tons gross, or 154.88 net tonnage. She was employed in making repairs at 57 light-stations, in the inspection of 69 light-houses and beacon lights, and in locating the sites for 12 beacon structures. She was engaged 19 days in loading and unloading material for light-stations; 9 days outfitting the new light-house at Bluff Shoal, North Carolina; 2 days removing light-house property from Northwest Point Royal Shoal discontinued light-station; 15 days erecting new stands for range post lights in the James River; 15 days installing

the new oil engine and compressor for the fog-signal at Thimble Shoal Station, Virginia, and removing the old one. She was 7 days occupied in the placing in position of a new donkey boiler; 12 days cleaning and painting hull, and 12 days cleaning boiler. She steamed 10,014 miles and consumed 829¾ tons of coal. She was under steam 335 days, and her machinery was in motion about 1,441 hours. She received needed fitments, supplies, and repairs.

Thistle.—This wooden screw steamer was built and bought in 1890, when she was called the *Cynthia.* She is of about 31.66 gross and 15.83 net tons burden. She assisted in the repair of 13 light-stations and 1 light-house depot and in the erection of 6 beacon-light structures, but her chief employment was the towing of a barge, two scows, and a yawl used in this work. She steamed about 4,280 miles, with an expenditure of some 247 tons of coal. She was under steam 4,393 hours during 319 days, and her engine was in motion 1,194 hours on 228 days. She received needed fitments, supplies, and repairs.

WORKING PLANT.

This consists of a barge or large scow, a small scow, and a pile-driver scow. They were towed by tenders and did good service. They all received more or less repairs.

SIXTH DISTRICT.

This district extends from, but does not include, New River Inlet, North Carolina, to and includes Jupiter Inlet light-station, Florida. It embraces all aids to navigation on the seacoast, bays, sounds, harbors, rivers, and other tidal waters of North Carolina, South Carolina, Georgia, and Florida between the limits named.

Inspector.—Commander C. G. Bowman, U. S. Navy, to November 20, 1903; Commander Albon C. Hodgson, U. S. Navy, from November 20, 1903.

Engineer.—Capt. George P. Howell, Corps of Engineers, U. S. Army.

In this district there are—

Light-houses and beacon lights, including 117 post lights	225
Light-vessels in position	3
Light-vessel for relief	1
Day or unlighted beacons	42
Fog-signals operated by steam, caloric, or oil engines	3
Fog-signals operated by clockwork	3
Whistling buoys in position	9
Bell buoys in position	11
Other buoys in position	201
Steamer *Wistaria*, buoy tender, and for inspection and supply	1
Schooner *Pharos*, for construction and repair	1
Naphtha tender *Water Lily*, for inspection and supply	1
Naphtha tender *Snowdrop*, for construction and repair	1

LIGHT-STATIONS.

781. Cape Fear, North Carolina.—This station was completed at the date of last annual report, with the exception of installing the illuminating apparatus. This was done, and the light was shown on August 31, 1903, for the first time.

783. Bald Head, mouth of Cape Fear River, North Carolina.—The characteristic of the light was changed from flashing to fixed white.

784–785. New Channel range, Cape Fear River, North Carolina.—On account of the shifting of the channel marked by this range, it was found necessary to move the beacons, and new structures were built. The lights will be shown about July 5, 1904.

786–787. Bald Head range, entrance to Cape Fear River, North Carolina.—On account of the shifting of the channel marked by this range, it was found necessary to move the beacons and new structures were built. The lights will be shown in new positions about July 5, 1904.

813–814. South Jetty Channel range, Winyah Bay, South Carolina.—This range, reported in last annual report as completed, was lighted on August 15, 1904.

815–816. Middle Ground Channel range, Winyah Bay, South Carolina.—This range, reported in last annual report as completed, was lighted on August 15, 1904.

817–828. Winyah Bay beacons, South Carolina.—Marsh Island beacon No. 3, which was damaged by a passing vessel, was repaired, and Mother Bunch Island beacon, No. 9, which was destroyed by lightning, was rebuilt.

830. Bull Bay, seacoast of South Carolina.—The dark sector of the light at this station was changed to lie between southeast by east and northeast by north.

—. *Sullivan Island Cove beacon, South Carolina.*—This beacon was established for marking the channel to the United States army post wharf.

854–856. Wadmelaw River beacons, South Carolina.—Enterprise beacon, No. 2, was carried away by a tow, and a contract has been made for replacing it. The other beacons are in good condition.

859–860. Hilton Head range, South Carolina.—The shifting of the channel marked by this range made it necessary that the front beacon be moved to the southward, which was done. Various repairs were made.

—. *St. Phillips Island, Port Royal entrance, South Carolina.*—The Board's last two annual reports contain the following statement, which is renewed:

This Department, at the instance of the Light-House Board, has the honor to state that the Board, at its session on October 7, 1901, reached the conclusion that the interests of commerce and navigation require the establishment of new range lights on St. Phillips Island, between Hilton Head and Paris Island range lights, at Port Royal entrance, South Carolina.

The North Breaker Shoal, at Port Royal entrance, has continued to shift to the southward and westward until it has passed the line of the Hilton Head and Paris Island range lights. Good water to the southward permits the line of Hilton Head being changed to the southward by moving its front beacon in that direction, but shoals at the entrance and in the upper part of Port Royal Sound prevent any change in the line of the Paris Island range lights. It thus becomes necessary to introduce new range lights between the above-named range lights.

Two dwellings for light-keepers would be needed as quarters for the additional light-keepers required to care for the proposed range lights in case they are established.

It is estimated that a new range-light station, with keeper's dwellings, can be established on St. Phillips Island, South Carolina, at a cost not exceeding $18,000, and the Light-House Board recommends, with the concurrence of this Department, that an appropriation of this amount be made therefor.

873–874. Oyster Beds range, Georgia.—The Board's last two annual reports contain the following statement, which is renewed:

This Department has the honor to state, at the instance of the Light-House Board, that since the destruction by cyclone in 1881 of the dwelling then occupied by the keepers of the Cockspur and Oyster Beds range, Georgia light-station, they have been quartered in the casemates at Fort Pulaski, Ga., which were temporarily fitted up for this purpose.

These casemates are damp, unsanitary, and unsuited to residential purposes, and it is impracticable to make them suitable for permanent habitation.

The War Department has authorized the erection of a keeper's dwelling on the parapet at Fort Pulaski, Ga. This, it is estimated, can be done at a cost not exceeding $4,000.

This Department concurs with the Board as to the urgent need for building a suitable dwelling for the use of the keepers of the Cockspur and Oyster Beds range, Georgia, light-station, and recommends that an appropriation of $4,000 be made therefor.

It is estimated that a light-house and fog-signal can be established at Mount Cornelia, Florida, at a cost not exceeding $105,000. The Department, therefore, at the instance of the Light-House Board, recommends that an appropriation of this amount be made therefor.

Reimbursement of light-keepers for personal losses sustained during the cyclones of August 27 and 28, 1893.—The following recommendation made in the Board's last nine annual reports is renewed:

A number of keepers of light-houses, the officers and crew of a light-vessel, and the keeper of a buoy depot sustained more or less heavy personal losses when the stations where they were employed were wrecked. Many of them displayed much devotion to the service and incurred great personal danger.

The Board therefore brought these matters to the attention of the honorable Secretary of the Treasury, and he, in letters of November 9 and 16, 1893, and January 29, 1894, to the Speaker of the House or Representatives, transmitted the sworn statements of each keeper as to his losses, indorsed by Commander M. R. S. Mackenzie, U. S. Navy, inspector of the Sixth light-house district, and recommended that provision be made by Congress for the reimbursement of the losses sustained by these keepers. The losses, as shown in these statements, amount to $2,399.13. Recommendation is made that an appropriation of that amount be made for the reimbursement of losses sustained by the light-house employees in the Sixth light-house district.

REPAIRS.

Repairs more or less extensive were made at the following-named stations:

812. Georgetown light-station, S. C.
831. Charleston light-station, S. C.
835–836. Main Channel range, S. C.
839–840. South Channel range, S. C.
844. Sullivans Island Breakwater beacon, S. C.
857. Hunting Island light-station, S. C.
861–862. Paris Island light-station, S. C.
866–867. Bloody Point light-station, S. C.
868–869. Tybee light-station, Ga.
914. St. Johns River light-station (rear beacon of Mayport range), Fla.

DAY OR UNLIGHTED BEACONS.

There are in the district 42 day or unlighted beacons, three having been discontinued during the year.

LIGHT-VESSELS.

782. Frying-Pan Shoals, No. 1, seacoast of North Carolina.—This wooden light-vessel was built in 1855, is of about 275 tons gross burden, old measurement, and has a steam fog-signal. This vessel was brought into Charleston on April 14, 1904, having been replaced by relief light-vessel No. 29. She received extensive repairs. A boiler and steam receiver were installed, a mainmast was fitted, and various minor repairs were made. She will be returned to her station about July 7, 1904.

832. Charleston, No. 34, off Charleston Harbor, South Carolina.—This wooden light-vessel was built in 1864, and is of about 150 tons gross burden, old measurement. She was continuously on her station and has received needed stores and fitments.

858. Martins Industry light-vessel, No. 53, off the seacoast of South Carolina.—This steel light-vessel was built in 1892, and is of about 491 tons displacement and has a steam fog-signal. She was brought in on June 4, 1903, and returned to her station on July 14,

1903, after being repaired. Her place meantime was taken by relief light-vessel No. 29. She received needed supplies and fitments.

—. *Brunswick Bar light-vessel, seacoast of Georgia.*—The following is a copy of a letter, dated November 27, 1903, from the Secretary of Commerce and Labor to the chairman of the Senate Committee on Commerce:

This Department has received a letter from your committee, dated November 16, 1903, inclosing a copy of Senate bill No. 462, Fifty-eighth Congress, first session, authorizing the establishment of a light-vessel off the outer bar of Brunswick, Ga., and making suggestions touching the merits of the bill and the propriety of its passage.

In reply this Department begs to state that it appears that the Secretary of the Treasury, in his letter of April 1, 1902, addressed to the chairman of the Committee on Interstate and Foreign Commerce, House of Representatives, in reply to its letter of February 3, 1902, asking for suggestions relative to the passage of H. R. bill 10705, authorizing the construction of a light-vessel to be placed off the outer bar of Brunswick, Ga., and appropriating $100,000 therefor, stated that the Light-House Board, to whom the matter had been referred, after investigation, reported that the establishment of a vessel at this place would be a serviceable aid to navigation, and, "therefore, that the passage of this bill is recommended."

This Department further states that the Light-House Board, to whom your letter was referred, after a further investigation of the matter reiterates its former opinion, but states that in its opinion $90,000 will be sufficient for the purpose, and this Department concurs with the Board in that opinion.

—. *Relief light-vessel No. 29.*—This wooden light-vessel, of about 150 tons gross burden, was built in 1864. She has a bell for a fog-signal, and is kept at Charleston as a relief light-vessel. On April 14, 1904, she relieved light-vessel No. 1 on her station at Frying-Pan Shoals and has been there continuously since. She has received needed supplies and fitments.

FOG-SIGNALS OPERATED BY STEAM, CALORIC, OR OIL ENGINES.

782. Frying-Pan Shoals light-vessel, No. 1, seacoast of North Carolina.—This 12-inch steam whistle was in operation some 50 hours and consumed about 5 tons of coal.

832. Charleston light-vessel, No. 34, off Charleston Harbor, South Carolina.—This 8-inch chime whistle was in operation some 169 hours and consumed some 91.75 gallons of oil.

858. Martins Industry light-vessel, No. 53, seacoast of South Carolina.—This 12-inch steam whistle was in operation some 71 hours and consumed some 5.40 tons of coal.

BUOYAGE.

The buoyage of this district is in good order and has been efficiently maintained during the year.

Four hundred and thirty-five buoys were painted, 345 replaced or relieved, 68 repaired, 5 recovered, 8 established, 7 discontinued, and 119 buoy chains repaired.

Changes were made in the buoyage of entrance to Cape Fear and Cape Fear River, North Carolina; entrance to Winyah Bay and Georgetown; entrance to Charleston and Charleston Harbor; Stono Inlet; entrance to Port Royal, South Carolina, and Sapelo Sound, Georgia.

A reserve supply of buoys and chain is kept on a wharf in the harbor of Brunswick, Ga., leased for the purpose, and it has been found greatly to facilitate buoyage operations in the southern part of the district.

LIGHT-HOUSE DEPOTS.

Castle Pinckney depot, Charleston Harbor, South Carolina.—In this depot are stored the supplies for distribution to the various light-stations throughout the district. Here also are stored all buoys, buoy appendages, chains, etc., not in use, and all unserviceable old property until it is disposed of. Moorings of concrete have been made and preparations are under way to make quite a number more, sufficient to meet the present demands of this district. It has been found that they answer every purpose, are reliable, and are much cheaper than stone or mushroom moorings. A 35-foot naphtha launch has been built for use in connection with this depot and it will greatly facilitate the handling of all business connected therewith, such as transferring supplies, carrying over employees, etc. The roofs of the storehouse and the oilhouse were painted and the dwelling furnished with a grate. The settlement of the dwelling and storehouse continues, but very slowly. The wharf requires new fender piles and the landing ladders need refastening. A contract for this work was made. The piling under the wharf requires patching in places. Beyond these requirements the depot is in good condition.

Old post-office building, Charleston, S. C.—This building is used as an office for the inspector of the district, as a lamp shop, and as a storeroom.

LIGHT-HOUSE TENDERS.

New tender for the inspector of the Sixth light-house district.—The act approved on April 28, 1904, appropriated $50,000 toward constructing, equipping, and outfitting complete for service a new steam tender for buoyage, supply, and inspection in the Sixth light-house district to take the place of the tender *Wistaria*, and a contract was authorized by the same act for such tender at a cost not to exceed $130,000. The Board now recommends that an appropriation of $80,000 be made with which to carry out this contract. The plans and specifications of the vessel are now being made.

Wistaria.—This iron side-wheel steamer was built in 1881–82, and is of about 450 tons gross burden. She painted 435 buoys, replaced or relieved 345, repaired 31, recovered 5, established 8, and discontinued 7. She repaired 119 buoy chains. Her crew was employed 50 days upon buoys at the light-house depot and at the custom-house dock, and was engaged 30 days in light-vessel repairs. She delivered to light-vessels on station coal, wood, rations, and various articles of supplies. She took out Martins Industry light-vessel, No. 53, and brought in relief light-vessel No. 29, on July 14, 1903, and on April 14 took out relief light-vessel No. 29 and brought in Frying-Pan Shoals light-vessel, No. 1, for repairs. She transported material and built a wharf at New Channel range front light, Cape Fear River, North Carolina, and assisted in rebuilding post lights on the St. Johns River, Florida. She delivered supplies to light-stations generally throughout the district and transported the inspector on various

inspection trips. She steamed some 10,531 nautical miles, consumed about 1,151 tons of coal and 3¾ cords of wood, and was under way 65 days. She was 319 days under steam and 46 days without fire under her main boiler. She had steam in her donkey boiler about 35 days. Various repairs were made.

Water Lily.—This wooden 65-foot twin-screw naphtha launch was built in 1895, and is of about 33 tons gross burden. She steamed some 5,970 miles and consumed about 3,618 gallons of naphtha. She delivered supplies to 36 stations, made 387 inspections of light-stations and post lights, rebuilt and repaired 11 post lights in the Cape Fear River, North Carolina, and St. Johns River, Florida, and relieved 5 buoys. Various repairs were made.

Pharos.—This wooden schooner, which was purchased in 1854 and rebuilt in 1872, is of 168 tons gross burden. She was employed in completing the ranges at Winyah Bay, South Carolina; in repairing Marsh Island beacon, No. 3, and in repairing Charleston and Fort Sumter light-stations; in repairing Fort Sumter and Sullivan Island breakwater beacon, Amelia Island, Tiger Island, and St. Johns River light-stations, Pilot Town range, South Channel range, and in building Sullivan Island Cove beacon, and in repairing South Channel range, and Bloody Point light-station, Tybee Knoll Cut, Elba Island, and Oglethorpe rear beacon, Oyster Beds, and Hilton Head, and in making soundings for finding new position of the front beacon at Hilton Head. She was also engaged in repairing Hilton Head light-station, and she shifted the front beacon. She was also engaged in building the structures for New Channel range and Bald Head range, North Carolina, light-stations. She sailed during the year, according to her log, 1,388 miles.

Launch Snowdrop.—This wooden gasoline launch was built in 1896 and is of 19 tons burden. She was employed during the year in making repairs to light-stations. She received sundry repairs. She steamed, in going from station to station, without counting the miles covered while at work at the stations or in the harbor of Charleston, 1,950 miles and consumed 2,233 gallons of gasoline.

WAR TELEPHONE LINES.

The telephone line between Georgetown light-station and South Island, South Carolina, is in good condition and in general use. The line between Charleston and Charleston light-station, South Carolina, is now in good condition, and is operated by the Bell Telephone and Telegraph Company, the company which had previously operated it having sold out to them.

SEVENTH DISTRICT.

This district extends from a point just south of Jupiter Inlet light-station to and includes Perdido Entrance, Florida. It embraces all aids to navigation on the sea and Gulf coasts of Florida and on other tidal waters tributary to the sea and Gulf between the limits named.

Inspector.—Commander James H. Bull, U. S. Navy, to December 31, 1903; Commander John A. H. Nickels, U. S. Navy, from January 1, 1904.

Engineer.—Capt. (now Maj.) William E. Craighill, Corps of Engineers, U. S. Army.

There are in this district:

Light-houses and lighted beacons	93
Day or unlighted beacons	67
Whistling buoys in position	4
Bell buoys in position	8
Other buoys in position	274
Steamer *Laurel*, buoy tender and for supply and inspection	1
Steamer *Mangrove*, buoy tender and for supply and inspection	1
Steamer *Arbutus*, for construction and repair in the Seventh and Eighth districts	1
Steamer *Ivy*, for construction and repair in the Seventh and Eighth districts	1

LIGHT-STATIONS.

1007. Hillsboro Inlet, off Hillsboro Point, between Jupiter Inlet and Fowey Rocks lights, Atlantic coast of Florida.—The site first selected on the south side of the inlet was found by borings through the substrata to be unsuitable for the foundation of the light-station. Then a site was selected on the north side of the inlet; and as no satisfactory arrangement could be made with the owners for its purchase, condemnation proceedings were begun.

The following recommendation, made in the Board's last annual report, is renewed:

By the act approved February 12, 1901, the establishment of a first-order light at or near Hillsboro Point, Florida, was authorized at a cost not exceeding $90,000, and by act approved June 28, 1902, $45,000 was appropriated therefor, and a contract to build this station was authorized at a cost not to exceed $90,000.

The act approved March 3, 1903, made an appropriation of $25,000 for the light, making $70,000 available for use in its construction. A preliminary examination was made of the conditions in the vicinity of the inlet, and a site south of it was provisionally selected. Preliminary survey was made, and borings were taken; and as the underlying material at this site was not satisfactory, it was decided that a further and more complete survey with borings should be made at available sites on the north side of the inlet. The Board recommends that a further appropriation of $20,000 be made, in order that the work of building this station may be carried to completion.

1013. Cape Florida Shoal beacon, Hawk Channel, entrance to Biscayne Bay, Florida.—The beacon was painted. The opening in the lantern platform was enlarged. The hoisting gear was adjusted.

—. *Cape Romano, on the island forming that cape, about 33 miles southeast from Sanibel Island, Florida.*—The following statement, made in the Board's last three annual reports, is renewed:

The Gulf coast of Florida between Sanibel Island and Key West, something over 100 miles, is without a single light. There is quite a large commerce carried on between Florida ports above Sanibel Island and Key West and Cuba, using the route along the west coast of Florida, and a light at Cape Romano would be of great benefit. The island forming the cape was reserved for light-house purposes by the Executive order dated January 9, 1878.

The following is a copy of a letter dated January 10, 1901, from the Secretary of the Treasury to the Speaker of the House of Representatives, quoted from the Board's last annual report:

At the instance of the Light-House Board this Department has the honor to state that the interests of commerce and navigation seem to make necessary the establishment of a light-house at Cape Romano, on the western coast of Florida.

The reasons for the necessity for this light are that there is a stretch of coast over 100 miles in length between Sanibel Island and Key West, Fla., without a single light. There is quite a large commerce carried on between Florida ports above Sanibel and Key West and Cuba, using the route along the west coast of Florida.

The estimated cost of establishing a light-house at Cape Romano is $35,000.

This Department therefore has the honor to recommend that an appropriation of $35,000 be made at the present session of Congress for the establishment of a light-house at Cape Romano, Florida.

On account of the increased cost of steel and other materials, this estimated cost should now be increased about 30 per cent, or to $45,000, and the Board recommends that an appropriation of this amount be made therefor.

1033. Puntarasa front range beacon light, Gulf coast of Florida.—A white, square, pyramidal wooden beacon, the upper part of which is covered with horizontal slats, standing on four iron-cased piles, and bearing a white lens-lantern light 30 feet above water, was built in 6 feet of water southwesterly from Puntarasa, Fla.

1034. Puntarasa rear range beacon light, Gulf coast of Florida.—A black, square, pyramidal wooden beacon, the upper part of which is covered with horizontal slats, standing on four iron-cased piles, bearing a fixed white lens-lantern light 45 feet above water, was built in 2 feet of water close to Fishermans Key, off Puntarasa, Fla.

1041. Egmont Key, entrance to Tampa Bay, Florida.—A plank walk 427 feet long was built. A frame wash house and about 2,175 feet of board fence with a double and three single gates were built. Various repairs were made.

—. *North Channel beacon light, Tampa Bay, Florida.*—Materials for building a lighted beacon to mark the north channel entrance to Tampa Bay were purchased and delivered, but the work has not yet been begun.

—. *Southwest Channel beacon, entrance to Tampa Bay, Florida.*—A white, square, pyramidal wooden beacon the upper part of which is covered with horizontal slats, standing on four iron-cased piles, and extending 35 feet above water was built but not lighted. It marks the southwest channel entrance to Tampa Bay, Florida.

1042. Mullet Key Shoal beacon, Tampa Bay, Florida.—A beacon

was built to replace that damaged by storm, It is the same character of structure and occupies the same location as the old beacon.

1043. Point Pinelos beacon, Tampa Bay, Florida.—This beacon was destroyed by storm, and a new beacon was built in same location. It is a black, square, pyramidal wooden beacon, the upper part of which is covered with horizontal slats, standing on four piles, and bearing a white lens-lantern light 32 feet above water.

1048. Long Shoal beacon, Hillsboro Bay, Florida.—The light was permanently removed, and the beacon was left as a daymark.

1049. Middle Ground beacon, Hillsboro Bay, Florida.—The light was permanently removed, and the beacon was left as a daymark.

—. *Gadsden Point beacon light, Tampa Bay, Florida.*—A square, white, pyramidal wooden beacon, the upper part of which is covered with horizontal slats, standing on four iron-cased piles, and bearing a white lens-lantern light 35 feet above water, was built in 12 feet of water off Gadsden Point, Hillsboro Bay.

—. *Alafia River beacon light, Tampa Bay, Florida.*—A triangular, black, pyramidal wooden beacon, upper part covered with horizontal slats, supported on three iron-cased piles, and bearing a white lens-lantern light 20 feet above water, was built in 4½ feet of water on the northwesterly side of the southerly entrance to Alafia River.

—. *Tampa Cut outer beacon, No. 2, Hillsboro Bay, upper part of Tampa Bay, Florida.*—A red, square, pyramidal wooden beacon, upper part of which is covered with horizontal slats, standing on four iron-cased piles, was built in 13 feet of water at the outer end and on the starboard side of the dredged cut leading to the mouth of Hillsboro River. It bears a fixed red lens-lantern light 35 feet above water.

—. *Tampa Cut beacon light, No. 4, Hillsboro Bay, upper part of Tampa Bay, Florida.*—A temporary beacon, consisting of a single pile with cross arm, supporting a fixed red post-lantern light, was built on the bank thrown up by the dredge on the starboard side of the dredged cut at the entrance to Hillsboro River and about midway of the cut. This was replaced by a permanent, red, triangular wooden beacon, the upper part of which was covered with horizontal slats standing on three iron-cased piles, in 6 feet of water, and bearing a fixed red lens-lantern light 21 feet above water.

—. *Tampa Cut beacon light, No. 6, Hillsboro Bay, Florida.*—A temporary beacon, consisting of a single pile with a cross arm, supporting a fixed red post-lantern light, was built on the bank thrown up by the dredge on the starboard side of the dredged cut at the entrance to Hillsboro River. It was replaced by a permanent, red, triangular wooden beacon, the upper part of which was covered with horizontal slats, on three iron-cased piles, standing in 7 feet of water at the inner end of the dredged cut leading to the mouth of Hillsboro River, and bearing a fixed red lens-lantern light 21 feet above water.

1057. Anclote Keys, entrance to Anclote anchorage, Gulf of Mexico, Florida.—Fourteen piles were driven under the wharf and three fender piles were driven at the outer end. The stringers and decking were repaired. A boathouse was built. A platform was built with winch and boat ways installed for hauling out the keeper's boat. Various repairs were made.

1058. Cedar Keys, entrance to Cedar Keys Harbor, Gulf of Mexico, Florida.—A survey was made of the entire key.

1064. Crooked River rear range, St. George Sound, Florida.—Some 500 feet of wharf 8 feet wide, with a T-head at the outer end, was rebuilt. About 160 feet of plank walk and some 1,120 feet of picket fence 5 feet high were built. Various repairs were made.

1067. Bulkhead Cut front range beacon, Apalachicola Bay, Florida.—A beacon was built to replace the one destroyed by a storm. It is located about 40 feet eastward from the old structure, and is a red, square, pyramidal wooden beacon, the upper part of which is covered with horizontal slats, and standing on four iron-cased piles in 10 feet of water on the prolongation of the axis of the bulkhead cut. It bears a fixed white lens-lantern light 32 feet above water. The remains of the old beacon were removed.

1068. Bulkhead Cut rear beacon, Apalachicola Bay, Florida.—A new beacon was built to replace the old one about 40 feet eastward of the old one. It is a black, square, pyramidal wooden beacon, the upper part being covered with horizontal slats, standing on four iron-cased piles in about 9 feet of water, and bearing a white lens-lantern light 45 feet above water. With the front beacon it forms a range for running the bulkhead cut in Apalachicola Bay. The old beacon was removed.

1069. Outer beacon, Apalachicola Bay, Florida.—A beacon was built to replace the old one, which was removed. It is a red, square, pyramidal wooden beacon, the upper part being covered with horizontal slats, and it stands on four iron-cased piles in 7 feet of water. It bears a fixed red-lens lantern light 35 feet above water.

1076. Cape San Blas, Gulf coast of Florida.—The assistant keeper's dwelling was burned and a temporary one was built with materials on hand at the station. The act approved on April 28, 1904, set aside $7,000 from the special appropriation for removing or building this station at a new and safe site for the erection of two keepers' dwellings. The plans and specifications for it are being prepared.

1086. Santa Rosa Sound rear beacon, Florida.—A beacon was built by the owners of the steamer *Florida* to replace the one knocked down by that vessel. It is in the same location as the old one, and is a triangular, red, pyramidal wooden beacon, the upper part of which is covered with horizontal slats on iron-cased piles standing in 4 feet of water.

1091. Caucus Cut rear beacon, Pensacola Bay, Florida.—Bids were obtained for building a larger beacon to replace the old one, but they were rejected as excessive and materials purchased in open market. The site was located, materials were delivered, and one pile for the foundation was driven and an iron sleeve was put on it.

Reimbursement of the Warrington Wharf Company, of Warrington, Fla., for damage done to their wharf by the tender Laurel.—The light-house tender *Laurel*, while at Pensacola in June, 1902, and not being permitted by the naval authorities to use navy-yard docks, was obliged, in order to take on board provisions and supplies, to go alongside of the Warrington Wharf Company's wharf, and while there broke off one of the pilings, for which the company claimed the sum of $11.40. The Board recommends that an appropriation of this amount be made to satisfy this claim.

Reimbursement of a light-keeper for losses sustained during the gale of October, 1894.—The following recommendation, which was made in the Board's last four annual reports, is renewed:

It appears that Mr. W. M. Quinn, while keeper of Cape San Blas, Florida, light-station during the gale of October, 1894, lost all the property he had at the light-station. An itemized account, amounting to $124.75, was transmitted through the inspector of the light-house district, who recommends that the keeper be indemnified in the sum claimed by him. The Board therefore recommends that an appropriation of $124.75 be made for this purpose.

Reimbursement of George L. Long, assistant keeper of Cape San Blas light-house, Florida, for losses sustained during the hurricane of October 8, 1894.—The following recommendation, made in the Board's last three annual reports, is renewed:

A statement of the losses sustained by this assistant keeper, to the amount of $75, approved and recommended by the inspector of the Seventh light-house district, was sent by the Secretary of the Treasury to the Speaker of the House of Representatives in his letter of April 20, 1900, with recommendation that reimbursement be made. The Board recommends that an appropriation of this amount be made therefor.

REPAIRS.

Repairs, more or less extensive, were made at the following-named stations:

1014. Biscayne Channel beacon, Fla.
1015. Bowles Bank beacon, Fla.
1016. Mosquito Bank beacon, Fla.
1017. Hen and Chickens beacon, Fla.
1018. East Turtle Shoal beacon, Fla.
1019. East Washerwoman Shoal beacon, Fla.
1021. Pelican Key beacon, Fla.
1023. Key West, Fla.
1027. Northwest Bar beacon, Fla.
1028. Rebecca Shoal, Fla.
1037. Gasparilla Island range, rear, Fla.
1039. Mangrove Point beacon, Fla.
1044. Indian Hill beacon, Fla.
1045. South Cut lower beacon, No. 6, Fla.
1050. Barrel Stake beacon, Fla.
1053. Snead Point Shoal beacon, Fla.
1055. Terracela Point beacon, No. 1, Fla.
1056. Bird Key beacon, No. 9, Fla.
1062. Carrabelle River Bar beacon, rear, Fla.
1063. Crooked River beacon, front, Fla.
1065. Six-foot Spot beacon, St. George Sound, Fla.
1066. Porter Bar beacon, St. George Sound, Fla.
1070. Apalachicola beacon, front, Fla.
1071. Apalachicola beacon, rear, Fla.
1072. Cape St. George beacon, Fla.
1073. West Pass Bar beacon, front, Fla.
1074. West Pass Bar beacon, rear, Fla.
1078. St. Joseph Point beacon, rear, Fla.
1088. Pensacola, Fla.

DAY OR UNLIGHTED BEACONS.

Florida Reef iron spindle beacons, Florida.—All of the iron spindle beacons on the Florida reefs were scaled and painted. Beacon W was carried away in a storm, and metal work for a new beacon was purchased and delivered, but the beacon has not yet been replaced.

Bulkhead Cut day beacon, Florida.—A beacon was built to replace the one knocked down by a raft in tow, and it was again partially knocked down by the steamer *Crescent City*, and rebuilt by the owners of that vessel. It has since been knocked down again.

Middle Ground beacon, Tampa Bay, Florida.—The light was removed from this structure and it is now a daymark.

Long Shoal beacon, Tampa Bay, Florida.—The light was removed and it is now a daymark.

Big Marco Pass front beacon, Florida.—The light was removed from this beacon and it is now a daymark.

BUOYAGE.

The buoyage in this district is in excellent condition. During the year 3 bell buoys, 8 second-class nun buoys, 6 second-class can buoys, and 6 third-class can buoys were received. Fourteen buoys were established, 8 buoys were discontinued, and 6 buoys were lost.

LIGHT-HOUSE DEPOTS.

Key West, Fla.—The overhead trestlework leading to the coal shed was removed. The exterior of the buoy shed was painted. The decking of the wharf was repaired where necessary. Four cisterns were painted and their tops repaired. The doors of the buoy shed were repaired. A picket fence was painted. Five suits of sails were made for boats, and minor repairs were made by the depot keeper. At the blacksmith shop much work was done on buoys and for light-stations and for the tenders by the blacksmith and his helper.

Egmont Key, entrance to Tampa Bay, Florida.—The old wharf, 100 feet long and 39 feet wide, was rebuilt. A new wharf, 80 feet long by 39 feet wide, was built, and 17 fender and 4 hitching piles were driven at the outer end of the wharf, and 100 feet of trestle leading to the coal shed was built. Boat davits were repaired. New sills were placed under one cistern and a new foundation under another, and 3 new cistern tops were made and placed. Minor repairs were made.

Pensacola, Warrington Navy-Yard, Pensacola Bay, Florida.—A site for a buoy shed and wharf at foot of Mason street, Warrington, Fla., was transferred by the Navy Department for the use of the Light-House Establishment, and said site was surveyed and located by metes and bounds.

In order to temporarily provide a place to clean, paint, and store buoys which have to be handled in this locality, it is respectfully recommended that a platform 30 feet by 150 feet be built in 12 feet of water off Warrington, Fla., at a point opposite the site allotted by the Navy Department for the use of the Light-House Establishment, with the intention to connect this shed with the land by a wharf with open shed at the inner end at some future date. It is estimated that a suitable wharf can be built for $4,700, and recommendation is made that a special appropriation for that purpose be made.

LIGHT-HOUSE TENDERS.

Mangrove.—This steel twin-screw steamer, built in 1897, has a displacement of 600 tons. She was used for buoyage, delivering supplies to light-stations, and for the quarterly inspections made by the light-house inspector. The tender relieved 126 buoys and established 8 buoys. Her crew worked some 53 days at the depot, and cleaned and painted 152 buoys. The *Mangrove* steamed some 8,254 nautical miles and consumed about 1,049 tons of bituminous coal. Various repairs were made.

Laurel.—This wooden twin-screw steamer, of 1,312 tons gross burden, was built in 1876. She was employed in attending to the buoy-

age of the district and supplying the semiannual rations to light-stations, with exception of 8 days, when she was employed in placing and taking up targets and buoys for the Navy. This tender relieved 130 buoys and established 6 buoys. Her crew worked 40 days at the depot and cleaned and painted 138 buoys. The *Laurel* steamed some 8,440 nautical miles and consumed about 576 tons of bituminous coal. Various repairs were made.

Arbutus.—This wooden twin-screw steamer, of 400 tons gross burden, built in 1879, was used during only a small part of the year in this district. She made several trips of inspection, visiting Key West light-station and depot, Rebecca Shoal, Crooked River, Cedar Keys, and Pensacola light-stations, also all the beacons in Carrabelle River, and Apalachicola Bay, and Fort Barrancas, Fort McRee, and Caucus Cut range beacons. She was used in locating the positions for the Bulkhead Cut range beacons and in making a survey of Sea Horse Reef. The report of miles steamed and coal consumed will be found in the report of the Eighth light-house district.

Ivy.—This steel twin-screw steamer, of 550 tons gross burden, was built during the present year and was delivered to the light-house engineer at Key West, Fla., on June 9, 1904, when she proceeded at once to Mobile, and was used from that time in the Eighth light-house district, in the report of which will be found a statement of the coal consumed and miles steamed.

HIRED VESSELS.

Martha.—This schooner was employed a part of the year in this district. She was used in building the Bulkhead Cut range beacons and outer beacon, Apalachicola Bay, in rebuilding Apalachicola front range beacon, and painting the rear beacon, and in adjusting the hoisting gear and making minor repairs to all the beacons in Apalachicola Bay. She assisted in building Tampa Cut beacons, Nos. 2, 4, and 6, and Gadsden Point beacon, and in making minor repairs to Indian Hill, Long Shoal, Middle Ground, Barrel Stake, Terraceia Point, and Bird Key beacons, in Tampa Bay, and in installing boat ways at Anclote Key light-station.

Ellen C.—This schooner was used a part of the year in this district. She assisted in scaling and painting the Florida Reef iron spindle beacons and in painting and repairing all the Hawk Channel beacons; also in delivering materials and assisting in repairs to Key West depot and Rebecca Shoal light-station.

Mary T.—This schooner was engaged during a part of the year in this district. She was used in connection with the delivery of materials and making repairs to Anclote Key, Gasparilla Island, and Charlotte Harbor light-stations and to Mangrove Point, Peace Creek, and Snead Point Shoal beacons, and in constructing Point Pinelos, Mullet Key Shoal, and Southwest Channel beacons.

Dawn.—This schooner was hired in June and only worked part of one month. She was used to deliver materials and assist in the work of building Caucus Cut rear range beacon, Florida.

EIGHTH DISTRICT.

This district extends from but does not include Perdido Entrance, Florida, to the southern boundary of Texas. It embraces all aids to navigation on the Gulf Coast of the United States and tidal waters tributary to the Gulf between the limits named, together with those on the Mississippi River below New Orleans, and on Grand Lake and Lake Chicot.

Inspector.—Commander Kossuth Niles, U. S. Navy, to December 7, 1903; Commander John C. Wilson, to February 10, 1904; and since then, Commander W. W. Kimball, U. S. Navy.

Engineer.—Capt. (now Maj.) William E. Craighill, U. S. Army.

In this district there are:

Light-houses and beacon lights, including 29 post-lights on the Mississippi River, Grand Lake, and Lake Chicot	135
Light-vessels in position	2
Day or unlighted beacons	89
Fog-signals operated by steam	1
Fog-signals operated by clockwork	15
Fog-signals operated by hand	1
Gas-lighted buoys in position	7
Whistling buoys in position	5
Bell buoys in position	2
Other buoys in position	138
Steamers *Magnolia* and *Pansy*, buoy tenders, and for supply and inspection	2
Steamer *Arbutus*, for construction and repair in Seventh and Eighth districts	1
Steamer *Ivy*, for construction and repair in the Seventh and Eighth districts	1

LIGHT-STATIONS.

1101. Sand Island beacon, front entrance to Mobile Bay, Alabama.—About 32 cubic yards of rock was placed around the foundation. Minor repairs were made.

1102. Sand Island rear, Mobile Bay entrance, Alabama.—The act approved on June 6, 1900, appropriated $65,000 for rebuilding this light when made necessary on account of the encroachment of the sea. This contingency has not yet arisen.

1103. Mobile Point beacon, Alabama.—The height of the beacon was cut down 5 feet and a new lamp house was built and the structure was painted.

1104. Mobile Point, entrance to Mobile Bay, Alabama.—New screens were made and installed. A wharf 100 feet long by 4 feet wide was built. Boat davits were installed on the wharf. Various repairs were made.

—. *Mobile Ship Channel lights, Alabama.*—These 26 beacon lights have been cared for by the two keepers of Battery Gladden light-station on a steam tug, making daily trips, which was hired under

contract. Arrangements are being made to care for these lights during the next fiscal year with a gasoline or other power boat, the contractor to do all the work, thus relieving the overworked keepers of Battery Gladden light-station.

—. *Mobile Ship Channel light, No. 7, Mobile Bay, Alabama.*—This beacon, which was run into and destroyed by a steamer, was discontinued on July 16, 1903.

1105. Middle Ground beacon, Mobile Ship Channel, Alabama.—Four clusters, three in each, of fender piles were driven. Three of these clusters, which were washed up or broken down, were replaced by three new clusters. About 4,281 barrels of oyster shells and 50 barrels of live oysters in the shells were placed under and around the foundation. They come to within 10 feet of the surface of the water and take a natural slope.

1106–1128. Mobile Ship Channel lights, Alabama.—Each beacon was scaled, painted, and lettered in white on four sides of the base of the platform, and repairs were made to some of the beacons.

1134. Horn Island, entrance to Mississippi Sound, Mississippi.—A wharf 130 feet long, with a landing platform at the outer end, was built. A boathouse and boat ways 240 feet long, with platform at the inner end, and with winch and boat cradle, were built. Various repairs were made.

1138, 1139, 1140, 1141, 1142. Pascagoula River beacons, A, B, C, D, and E, Mississippi Sound, Mississippi.—On January 22, 1904, these five beacons were established, showing fixed red post-lantern lights, and their intensity was increased on March 1, 1904, by changing them from post to lens lantern lights.

1138. Pascagoula River beacon A, Mississippi.—A red, square, pyramidal wooden beacon, the upper part of which is covered with horizontal slats, standing on four iron-cased piles, and bearing a fixed red lens-lantern light 35 feet above water, was built in 17 feet of water on the northeasterly side of the outer end of the dredged channel at the mouth of East Pascagoula River.

1139. East Pascagoula River beacon B, Mississippi.—A red square pyramidal wooden beacon, the upper part of which is covered with horizontal slats, on four iron-cased piles, and bearing a red lens-lantern light 35 feet above water, was built in 10 feet of water on the northeasterly side of the dredged channel at the mouth of East Pascagoula River, about $2\frac{1}{8}$ miles NW. $\frac{3}{16}$ W., from beacon light A at entrance to the channel.

1140. Pascagoula River beacon C, Mississippi.—A red square pyramidal wooden beacon, the upper part of which is covered with horizontal slats, standing on four iron-cased piles, and bearing a red lens-lantern light 35 feet above water, was built in 6 feet of water on the northeasterly side of the dredged channel at the entrance to East Pascagoula River, Mississippi, about $2\frac{1}{8}$ miles NW. $\frac{3}{16}$ W. from beacon light B, at the first bend in the channel.

1141. East Pascagoula River beacon D, Mississippi.—A red square pyramidal wooden beacon, the upper part of which is covered with horizontal slats, standing on four iron-cased piles, and bearing a red lens-lantern light 35 feet above water, was built in 4 feet of water, on the easterly side of the dredged channel at the entrance to East Pascagoula River, Mississippi, at the second bend in the channel.

1142. East Pascagoula River beacon E, Mississippi.—A red square

pyramidal wooden beacon, the upper part of which is covered with horizontal slats, standing on four iron-cased piles, and bearing a red lens-lantern light 35 feet above water, was built in 7 feet of water on the easterly side of the dredged channel at the entrance to East Pascagoula River, Mississippi, $\frac{7}{32}$ mile N. by W. $\frac{3}{16}$ W. from beacon light D.

1145. East Pascagoula River, Mississippi.—A 21-foot centerboard sailboat has been furnished for use in tending seven beacon lights.

1146. Pascagoula River west bank beacon, Mississippi.—A beacon consisting of a single iron-cased pile, surmounted by a topmast bearing a latticework daymark, with cross arm at the top, extending to 36 feet above water, and with a lamp house resting on a square platform at its base, was built on the east bank of the East Pascagoula River in the marsh. The entire structure, including the lamp house at the base, was painted red. It is connected with the river by a plank walk. The light has not been installed.

1147. Pascagoula River west bank beacon, Mississippi.—A beacon consisting of single iron-cased pile, surmounted by a topmast bearing a latticework daymark, and a cross arm at the top, extending to 36 feet above water, and with a lamp house on a platform at its base, was built in the marsh on the west bank of East Pascagoula River. The structure and lamp house are painted black. It is connected with the river by a plank walk.

1148. Bayou Chammier front range beacon, Mississippi Sound, Mississippi.—This daymark on the southerly bank of Pascagoula River, about 3 miles above East Pascagoula River light-station, near the mouth of Bayou Chammier, was arranged to bear a light by the installation of a cross arm at the top and the building of a lamp house at its base. It is connected with the shore and the rear beacon of the range by a plank walk 356 feet long. The lamp house and beacon are painted black.

1149. Bayou Chammier rear beacon, Mississippi Sound, Mississippi.—This daymark on the southerly bank of the East Pascagoula River, about 3 miles above East Pascagoula River light-station, near the mouth of Bayou Chammier, was arranged to bear a light by placing a cross arm with hoisting gear and building a black lamp house on a platform at its base.

1150. Lowry Island front beacon, Mississippi Sound, Mississippi.—This daymark was arranged to bear a light by the installation of a cross arm with a hoisting gear and the building of a black lamp house high on a platform at its base. It is connected with the river bank and with the rear beacon of the range by a plank walk 346 feet long.

1151. Lowry Island rear beacon, Mississippi Sound, Mississippi.—This daymark was arranged to bear a light by the installation of a cross arm and a hoisting gear and the building of a lamp house on a platform at its base.

1152. Ship Island, Gulf coast of Mississippi.—Some 930 tons of rock ballast was placed along the beach to protect it from erosion. Various repairs were made.

—. Gulf Port ship channel beacon lights, Mississippi.—Three lighted beacons were built by contract to mark the dredged channel leading to Gulfport. They are not yet lighted. They are red, pyramidal, wooden beacons, the upper parts of which are covered with

horizontal slats standing on four iron-cased piles. Beacon No. 2 stands in 19 feet of water on the starboard side of the outer end of the channel. Beacon No. 4 stands in 14 feet of water on the starboard side of the channel, about 13,640 feet NW. ½ N. from beacon No. 2. Beacon No. 6 stands in 18 feet of water on the starboard side of the channel about 13,640 feet NW. ½ N. from beacon No. 4. When beacon No. 6 was about completed it settled 3 feet. This made it necessary to raise the iron sleeves and the lower struts. Bond was given for full value of a new beacon to be built in case of a further settling within a year.

1163. Pearl River beacon A, Lake Borgne, Louisiana.—A black square, pyramidal wooden beacon, the upper part of which is covered with horizontal slats standing on four iron-cased piles and bearing a fixed white lens-lantern light 35 feet above water, was built in 10 feet of water on the westerly side of outer end of the dredged channel at the entrance to Pearl River from Lake Borgne.

1166. Bayou du Pré beacon, Lake Borgne, Louisiana.—A black, square, pyramidal wooden beacon, the upper part of which is covered with horizontal slats on four iron-cased piles, was built in 7 feet of water at the outer end of the row of piling extending into the westerly end of Lake Borgne from the northwesterly side of the mouth of Bayou du Pré. It bears a fixed white lens-lantern light.

1171. Port Pontchartrain at Milneburg, Lake Pontchartrain, Louisiana.—On August 5, 1903, there was established in the fixed white light at this station a fixed red sector between SSE. ½ E. and S. ½ W., and its edges guide clear of the ends of the old breakwater in Lake Pontchartrain, about five-eighths of a mile to the northward of the station. Various repairs were made.

1172. Bayou St. John, southerly side of Lake Pontchartrain, Louisiana.—On July 1, 1903, the intensity of this light was increased by changing it from a sixth-order to a lens-lantern light. Various repairs were made.

1175. Chefuncte River rear, Lake Pontchartrain, Louisiana.—About 245 tons of rock was placed in the breakwater.

1176. Pass Manchac, Lake Pontchartrain, Louisiana.—About 828 tons of rock and 4,000 barrels of shells were placed in the breakwater. Angle piles were driven along 100 feet of wharf. A platform was built on one side. Some 28 feet of walk and about 20 feet of picket fence were built. Various repairs were made.

1177. Amite River, Lake Maurepas, Louisiana.—An oilhouse was built on the fog-signal platform.

1178. Chandeleur, Gulf coast of Louisiana.—Boat ways about 210 feet long with a platform at inner end, and with winch and boat cradle for hauling out boats, were installed. Various repairs were made.

1179. Pass a Loutre, entrance to Mississippi River, Louisiana.—About 60 feet of wharf 6 feet wide was built. Six piles were driven under the T-head. Various repairs were made.

1184. South Pass rear, entrance to Mississippi River, Louisiana.—About 80 feet of walk 4 feet wide was built. Some 60 feet of fence was put up. Various repairs were made.

1186. Head of Passes, junction of South and Southwest passes, Mississippi River, Louisiana.—About 80 feet of plank walk 4 feet

wide and another walk some 330 feet long and 2 feet wide were built. Various repairs were made.

1187. Head of Passes, West Jetty, Mississippi River, Louisiana.—A beacon was built on the north end of the west jetty. It is a black, square, horizontally slatted structure 11 feet square at the base and 5 feet square at the top and extends 20 feet above water. It bears a fixed white lens-lantern light.

1188. Head of Passes, East Jetty, entrance to South Pass, Louisiana.—A lamp house was built on the platform and a five-day lens lantern was installed. Various repairs were made.

1189. Cubits Gap, Mississippi River, Louisiana.—A T-head was built at the outer end of the wharf. About 108 feet of breakwater 2 feet wide was built. A bulkhead 20 feet long on the river bank was built and filled with earth. Various repairs were made.

1213. Oyster Bayou, Gulf of Mexico, Louisiana.—Under the special appropriation of $5,000 approved on June 28, 1902, this station was completed so far as was practicable with the funds available. It is a white, square, two-story wooden dwelling surmounted by a black lantern. On the platform below the dwelling are two cisterns and two small white structures. The foundation consists of 9 iron-cased piles. From August 1, 1903, to January 20, 1904, a red lens-lantern light was displayed from the gallery of the lantern; on the latter date the regular fifth-order illuminating apparatus was installed. The act of Congress approved on April 28, 1904, appropriated $1,000 with which to complete the station.

1226. Mermenteau River, Gulf of Mexico, Louisiana.—Action under the appropriation of $7,000 for building a light here, made by the act approved on July 1, 1898, was deferred pending the dredging of a channel at the mouth of the river.

1228. Sabine Bank, Gulf of Mexico, Texas.—The metal work for the light-station was delivered at Sabine, and the work of erection was begun. Ways on which to build the caisson were built on piles, driven 16 feet into the ground, supporting four launching timbers having a slope of 1 inch to the foot. The piles under the center timbers were spaced 3 feet, and those under outside timbers were 6 feet apart. On these timbers was placed the false bottom, resting on four 6 by 12 inch runners, the planking of the false bottom being of 4 by 12 inch timber with six 6 by 12 inch stringers on top, and with 6 by 6 inch posts resting on the same supporting the working chamber. A groove 1½ inches deep was cut in this bottom to receive the cutting edge. The caisson was built to the top of the third course with one section of the air shaft. It was well caulked with pitch and putty and 24 inches of concrete was placed in the triangular space above the cutting edge. The caisson was launched by pressure from hydraulic jacks. It drew 3½ feet of water, with the false bottom in, when launched. The fourth section of plates was put on and 2 feet of concrete was placed between the 24-inch I-beams on top of the working chamber, and the false bottom was then removed, when the caisson drew 12 feet 6 inches of water. The fifth course of plates was then placed and the top section of the air shaft was put on and a wooden cofferdam 16 feet high and 22 feet in diameter was put on the top of the working chamber, and four 3-inch valves were placed for flooding the caisson. A platform was built on the top of the cofferdam. The caisson was then ready to be taken to the site, when it drew 16

feet of water. Four straps of 5-inch rope for holding towing lines were placed around the caisson just below the water line, and similar straps were placed at 10 feet above the water line. The caisson was towed to the site of the station, a distance of 16 miles, and was anchored to special clusters of mooring piles. It was grounded in 18½ feet of water, and the side walls cut into the bottom until the roof of the working chamber rested on the bottom. Concrete 4 feet thick was then placed between the cofferdam and the wall of the caisson for a height of 32 feet, within a foot of the top of the fifth course of plates. A working pier in the shape of a horseshoe and 90 feet by 60 feet in plan was built at the site of the station, the caisson being located between the wings of this pier. On the pier are two stiff-leg derricks, boilers, engines, compressors, pumps, dynamo, cisterns, and quarters for the working party. About 300 tons of ballast rock was placed around the outside of the caisson to prevent scouring.

1230. Sabine Pass jetty beacon, Gulf of Mexico, Louisiana.—The following recommendation, made in the Board's last four annual reports, is renewed:

The protecting mat of the east jetty extends out about 4 miles, and the nearest light to its entrance is a small beacon light about 1½ miles inside the end, too far inside to serve as a guide to the entrance of the jetty. Sabine Pass as a port of entry has grown rapidly. The receipts and shipments for 1896 and 1897 show an increase from $199,042 in 1896 to $475,288 in 1897. It appears from the records that 99 vessels entered and cleared during 1897, that there were 403 trips made, and that 104,333 was the net registered tonnage. The largest vessel which passed out drew 23.6 feet. The Board therefore deems that the needs of this port require the establishment here of a light and fog-signal. It is estimated that a suitable structure here, similar to the one at Brazos Santiago, Tex., can be built for $40,000. It is therefore recommended that an appropriation of this amount be made therefor.

The House of Representatives Committee on Appropriations called for suggestions from the Treasury Department as to the propriety of passing H. R. bill No. 11357, appropriating $40,000 for the establishment of a light-house at Sabine Pass, and was informed by letter of February 9, 1899, that the Treasury Department recommended the passage of the bill in question.

1234. Galveston Jetty, Gulf of Mexico, Texas.—Under the appropriation made by the act approved on June 11, 1896, a screw pile structure is being built near the end of the south jetty at the entrance to Galveston Bay. Plans and specifications are being prepared. Work will be commenced on the site at an early date.

1246. Trinity River beacon A, Galveston Bay, Texas.—A black, square, pyramidal wooden beacon, the upper part of which is covered with horizontal slats, standing on four iron-cased piles, and bearing a white lens-lantern light 35 feet above water, was built in 7 feet of water on the northwesterly edge of the dredged channel at the entrance to Trinity River, at the outer end of the channel.

1247. Trinity River beacon B, Galveston Bay, Texas.—A black, square, pyramidal, horizontally slatted beacon, standing on four iron-cased piles, and bearing a fixed white lens-lantern light 35 feet above water, was built in 5 feet of water on the northwesterly side, near the edge, of the dredged channel at the entrance to Trinity River, at the first bend in the channel.

1246–1247. Trinity River beacons, Texas.—The following recommendation, made in the Board's last annual report, is renewed:

Brackets supporting tackle for hoisting lanterns were installed on two beacons which had been erected by the War Department on the bulkhead on the

port side of the dredged channel at the entrance to Trinity River, one at the outer entrance and one at the first bend in the channel. It was afterwards found impossible for the keeper to attend and maintain the lights on these structures with the facilities in his possession, and as they do not seem to be suitable for permanent beacons, being merely posts supported by quadrupods of railroad iron and being located in such positions as to be liable to damage or destruction by passing tows, it is therefore proposed to establish here two pyramidal square, slatted beacons, supported on iron-cased piles, inside the bulkhead, one to be located inside the bulkhead near its outer end, and the other inside the bulkhead at the first bend above the entrance. It is estimated that these two beacons will cost about $1,800, and the Board recommends that an appropriation of this amount be made therefor.

—. *Reimbursement of light-keepers for losses sustained during the hurricane of October 1, 1893.*—The following recommendation, which was made in the Board's last 10 annual reports, is renewed:

Statements of these losses to the amount of $2,603.62, approved and recommended by the inspector of the Eighth light-house district, were sent by the Secretary of the Treasury to the Speaker of the House of Representatives in his letters of March 7 and April 3, 1894, with the recommendation that reimbursement be made. The Board recommends that an appropriation of this amount be made therefor.

—. *Reimbursement of Light-Keeper Claiborne for personal losses sustained during the hurricane of September 8, 1900.*—The following is a copy of a letter dated April 14, 1902, from the Secretary of the Treasury to the Speaker of the House of Representatives:

This Department has the honor to state, at the instance of the Light-House Board, that during the violent hurricane of September 8, 1900, when the city of Galveston was partially destroyed and many lives were lost, Mr. Harry C. Claiborne, keeper of the Bolivar Point (Texas) light-station, sustained serious losses of personal property, both from the depredation of the sea and from his humane efforts to provide for other sufferers who took refuge at the light-house.

Commander Selfridge, of the Navy, who was at that time the inspector of the Eighth light-house district, in reporting to the Light-House Board on the subject, states that "through his (Claiborne's) efforts the lives of 125 people were saved, and to my personal knowledge he harbored and fed a large number of them for a considerable period." In doing this the keeper exhausted the month's store of provisions for himself and family, which he had just purchased and which he used as far as he could in relieving the refugees, as required of him by the official instructions of the light-house keepers. He also furnished the sufferers with clothing and bedding until his own supply and that of his family were exhausted. The keeper at that time lost heavily of personal property belonging to himself and family, which, not being needed at the light-station for light-house purposes, is not included in his claim for reimbursement.

The Light-House Board, at its session of April 7, 1902, carefully considered a claim submitted by Light-Keeper Claiborne for reimbursement of those losses. The Board finds that the claim, in the sum of $234.48, is meritorious, and that the losses in question were of articles which the keeper had properly at the light-house. The Board is therefore of opinion that Keeper Claiborne ought to be reimbursed for the losses thus sustained.

The Department concurs with the Board in this matter, and therefore has the honor to recommend that an appropriation of $234.48 be made to satisfy this claim. The papers constituting the claim are herewith inclosed.

—. *Reimbursement of the heirs of Light-Keeper Bowen for losses sustained during the hurricane of September 8, 1900.*—The following is a copy of a letter dated December 7, 1901, from the Secretary of the Treasury to the Speaker of the House of Representatives:

This Department has the honor to state, at the instance of the Light-House Board, that during the hurricane of September 8, 1900, the light-station at Half-moon Shoal, Texas, was demolished and that the light-keeper, C. K. Bowen, was drowned.

A claim of $450.50 having been presented by the temporary administrator of the estate of the late keeper at that light-station for the value of the property he had properly at the light-house, the loss of which was occasioned by this storm, the Board, at its session of November 4, 1901, examined into the merits of the claim and decided that the heirs of Mr. Bowen ought to be reimbursed for the losses thus sustained.

The Light-House Board therefore recommends that an appropriation of $450.50 be made to satisfy this claim. The Department, for the reasons stated, concurs with the Light-House Board in this recommendation, and incloses the papers constituting the claim.

REPAIRS.

Repairs, more or less extensive, were made at the following-named stations:

1102. Sand Island, Ala.
1130. Battery Gladden, Ala.
1135. Round Island, Miss.
1159. Biloxi, Miss.
1160. Cat Island, Miss.
1171. Port Pontchartrain, La.
1172. Bayou St. John, La.
1185. Southwest Pass, La.
1210. Barataria Bay, La.
1211. Timballer, La.
1212. Ship Shoal, La.
1214. Southwest Reef, La.
1227. Calcasieu, La.
1231. Sabine Pass, La.
1240. Fort Point, Tex.
1249. Brazos River, Tex.

DAY OR UNLIGHTED BEACONS.

The Cut-off Channel range rear beacon, Alabama, was knocked down and was built on the same location.

Pearl River beacon B, Mississippi.—A black, square, pyramidal wooden beacon, the upper part of which is covered with horizontal slats, standing on four iron-cased piles, and with letter B in white on four sides of base of platform, was built in 9 feet of water on the westerly side of the inner end of the dredged cut at the entrance to Pearl River from Lake Borgne, Mississippi. It extends to 34 feet above water.

LIGHT-VESSELS.

1180. South Pass light-vessel, No. 43, entrance to the Mississippi River, Louisiana.—This composite light-vessel was built in 1880 and 1881, is of about 187 tons gross burden, shows two fixed white lights, and has a 12-inch steam whistle for a fog-signal. On August 1, 1903, she was removed from her station and on October 15, 1903, was replaced. She was on May 28, 1904, brought in to the light-house depot at Port Eads, La., and arrangements are being made to have her thoroughly repaired.

1233. Heald Bank light-vessel, No. 81, Texas.—By the act approved on March 3, 1903, $90,000 was appropriated for constructing, equipping, and outfitting, complete for service, a first-class steel steam self-propelling light-vessel, with a steam fog-signal, to be established near Heald Bank, which is a shoal spot in the Gulf of Mexico, in 4½ fathoms of water, about 34 miles from Galveston Harbor. The vessel is to be a double-decked first-class steel steam light-vessel, with a length between perpendiculars of 112 feet 11 inches, depth of hold 15 feet 4 inches, fitted with a compound engine, cylinder diameters 16 inches and 30 inches, stroke 24 inches, steam being furnished by two cylindrical boilers, the diameters of which are 9 feet 3 inches, length 16 feet 4½ inches, which will give the vessel a speed of 10 miles

an hour in comparatively smooth water. The ventilating and sanitary conditions are of the best. The coal capacity in bunkers and on deck is about 150 tons, and the fresh-water capacity is about 13,000 gallons. The living quarters are roomy, comfortable, and well ventilated. This vessel is now being built by contract, and it is expected that by December 31, 1904, she will be ready for duty.

1238. Galveston light-vessel, No. 28, Gulf of Mexico, Texas.—This wooden light-vessel was built in 1888, is of about 83 tons burden, shows a fixed red light, and has a bell for a fog-signal. She was taken off her station on May 18, 1904, and is now being repaired. She will soon be replaced on her station.

FOG-SIGNALS OPERATED BY STEAM OR HOT AIR.

1180. South Pass light-vessel, No. 43, Louisiana.—This 12-inch steam whistle was in operation about 6 hours, and consumed some 2 tons of anthracite coal. In February, 1904, her boilers let down, and thereafter the bell was sounded during thick or foggy weather.

BUOYAGE.

Gas buoys were maintained at Trinity Shoal, Gulf of Mexico, Louisiana, at the entrance to Sabine Pass, Louisiana and Texas; to mark the wreck of the schooner *Margaret Ward*, off Galveston entrance; to mark Heald Bank, off the entrance to Galveston Harbor; 1 in the entrance to Galveston Bay, and 1 temporarily marking the Galveston light-vessel station while that vessel is away for repairs.

A first-class spar buoy was established to mark West Bank, South Pass entrance to Mississippi River, Louisiana; and a third-class nun buoy was placed to mark wreckage in Horn Island anchorage, Mississippi.

LIGHT-HOUSE DEPOTS.

Mobile, Ala.—Both frame structures were completed. One building used as a storeroom is 121 feet long, 44 feet wide, and 17 feet 3 inches to the ceiling of the first story. It has a second story, used as a lamp shop, 77 feet long, 26 feet wide, and 14 feet 10 inches to the ceiling. There is also a dark room, blueprint frame and bath, for making photographs and blueprints. The other building is a single-story structure 121 feet long by 44 feet wide, with a 17-foot ceiling, and is used as a coal and buoy shed. An outfit of tools and an electric motor is being delivered. The railroad track of the Mobile, Jackson and Kansas City Railroad was extended along the south side of the pier its entire length, about 300 feet, giving switching facilities. Contract for water is made with the city waterworks. The buoy shed was run into and damaged by a schooner handled by a tug, but the owner of the tug had the necessary repairs made. The railroad company dredged from Mobile ship channel to the end of the pier, and on each side, to channel depth, so that light-house tenders can lie at the wharf.

Port Eads, La.—Minor repairs were made to the wharf and other structures. The siding of the coal and buoy sheds was repaired.

Light-house depot at Fort San Jacinto, Galveston Harbor, Texas.—The following recommendation, made in the Board's last annual report, is renewed:

It has been found by experience that a light-house tender can not, without dangerously overloading, carry from the nearest light-house depot, at Port Eads, La., the buoys, accessories, and other supplies needed for the proper care of the lower coast. A depot here has become necessary at which to keep spare buoys and light-house supplies. The War Department, by letter of December 29, 1900, to the Treasury Department, permitted the Light-House Establishment to occupy, for light-house purposes, at Fort San Jacinto, Tex., Military Reservation, in Galveston Harbor, a certain area described by metes and bounds and shown on a blueprint which accompanied his letter. It is estimated that this light-house depot can be established for $18,000, and the Board recommends that an appropriation of this amount be made therefor.

LIGHT-HOUSE TENDERS.

Pansy.—This iron twin-screw steamer, which was built in 1878, is of 343 tons gross burden. She cared for the buoys, delivered fuel, provisions, and supplies to the light-houses, and conveyed the inspector on his visits of inspection. She delivered annual supplies to the light-stations in Lakes Borgne and Pontchartrain. She towed South Pass light-vessel, No. 43, from her station to New Orleans for repairs, and returned that vessel to her station when they were completed. She cleaned and painted 170 buoys, changed 145, established 3, discontinued 3, replaced 7, and recovered 3. She relieved, replaced, and relighted the 4 gas buoys at Galveston entrance, one at Sabine Pass, one at Trinity Shoal, one at the wreck of the *Margaret Ward*, off Galveston Harbor, and established the Heald Bank gas buoy, 28 miles off Galveston Harbor. The crew was engaged 50 days at the Port Eads light-house depot in cleaning and painting buoys and in putting the depot in order. The tender steamed some 10,529 miles and consumed about 674 tons of coal.

This tender was turned over on May 11, 1904, to the officer in charge of the Porto Rican light-house service, and she sailed on May 18, 1904, from New Orleans for San Juan.

Magnolia.—This steel twin-screw steamer was completed and delivered at Port Eads light-house depot on May 5, 1904. She conveyed the inspector on a trip of inspection to light-stations, and towed Galveston light-vessel, No. 28, from her station to Galveston for repairs, and placed a gas buoy to temporarily mark her station. She towed South Pass light-vessel, No. 43, from her station to New Orleans for repairs. She changed 2 gas and 1 spar buoy, discontinued 1 gas and 1 whistling buoy, and recovered 4 buoys. The tender steamed about 2,326 miles and consumed some 335 tons of coal. Various repairs were made.

Arbutus.—This wooden twin-screw steamer was built in 1879, and is of 400 tons gross burden. She delivered materials for repairs to light-stations and for constructing Sabine Bank light-station. The tender assisted in the inspection of many light-stations. She was used in the survey of the site for a buoy wharf at Fort San Jacinto, Galveston Harbor. She made nine trips to Sabine with materials for Sabine Bank light-station, and a number of trips from Sabine to the site of the light on Sabine Shoals. She also assisted in installing lens lanterns on five beacons at the mouth of East Pascagoula River. The tender steamed some 17,344 miles and consumed about 926 tons of coal during the year. Various repairs were made.

Ivy.—This steel twin-screw steamer of 550 tons burden was received at Key West from the builders on June 9, 1904. She went to Mobile and was loaded with coal and other materials and supplies and sent to assist in the work of building Sabine Bank light-station. She steamed about 1,178 miles and consumed some 119 tons of coal during the month after she had been received by the light-house engineer.

HIRED VESSELS.

Sidney.—This schooner was employed about one month, and was used in connection with the erection of Bayou du Pré beacon light.

Excel.—This schooner was employed about two months. She was used in connection with driving fender piles around beacons in Mobile Bay and in delivery of materials and in the work of cutting down the height of Mobile Point beacon light.

Ellen C.—This schooner was employed almost the entire year, part of the time in the Seventh and part in the Eighth district. She was used in the delivery of materials and in the work of repairs at Timbalier and Barataria Bay light-stations and in the delivery of materials for repairs to Sabine Pass, Brazos River, and Fort Point light-stations. She delivered materials and assisted in the work of erecting two lighted beacons at the entrance to Trinity River, and was used in driving fender piles around beacons in Mobile Bay.

NINTH DISTRICT.

This district includes all aids to navigation on Lake Michigan, Green Bay, and tributary waters lying west of a line drawn across the Straits of Mackinac just east of old Mackinac Point light-station, Michigan.

Inspector.—Commander Lucien Young, U. S. Navy, to March 3, 1904; Capt. Perry Garst, U. S. Navy, from March 3, 1904.

Engineer.—Maj. James G. Warren, Corps of Engineers, U. S. Army.

In this district there are:

Light-houses and beacon lights	112
Light-vessels in position	4
Fog signals operated by steam, caloric, or oil engines	36
Fog signals operated by clockwork	7
Gas-lighted buoys in position	12
Bell buoys in position	1
Other buoys in position	101
Steamers *Dahlia* and *Sumac*, buoy tenders and for supply and inspection	2
Tender *Hyacinth*, for construction and repair	1

LIGHT-STATIONS.

465. Old Mackinac Point, Straits of Mackinac, Michigan.—Condemnation proceedings for acquiring additional land adjoining the present light-house site, which were begun in 1899, have not yet been completed. The three commissioners appointed in the case duly filed their report, allowing to the city of Mackinaw $400 as compensation for the taking of the two lots and $1,500 for damages to the adjacent property. Objections were filed, and these objections were argued and submitted in December, 1900. No decision has been rendered by the court and no progress has been made since that date. Various repairs were made.

NOTE.—Since the foregoing was written the court awarded $400 to the city of Mackinaw and directed that this amount be paid into court. The Comptroller of the Treasury, in his decision of August 18, 1904, states in effect that there are no funds available for this purpose. The Board therefore recommends that an appropriation of $400 be made to satisfy this decree of condemnation and that the amount may be paid into court, so that the Government may take title to the land in question.

479. Charlevoix pierhead, Lake Michigan, Michigan.—Some 720 running feet of metal elevated walk was built. The frame beacon was temporarily raised upon blocking, so that the superstructure of the pier could be rebuilt. After that was completed the beacon was lowered to the cross-ties and thoroughly bolted. The oil room was moved into the new superstructure.

487. Point Betsie, Lake Michigan, Michigan.—A storeroom was built in the basement of the keeper's dwelling. The walks were renewed.

488–489. Frankfort pierhead range, Lake Michigan, Michigan.—Some 200 running feet of the elevated walk was rebuilt. The watch room and oil room were raised from the old and moved to the new revetment and secured to the ties. Various repairs were made.

The following, which appeared in the Board's annual report for 1903, is renewed:

There are here two lights and a fog signal, but no keeper's dwelling nor a site for one. It is estimated that a site can be bought and a suitable double dwelling for the two keepers can be built for $6,500, and the Board recommends that an appropriation of this amount be made therefor.

490–491. Portage Lake pierhead range, Lake Michigan, Michigan.—The following recommendation, made in the last eight annual reports of the Light-House Board, is renewed:

This station consists of two lights on the Government pier, but there is no dwelling for the keeper. It is estimated that an appropriate structure can be erected for $3,500, and it is recommended that an appropriation of this amount be made therefor.

498–499. Pentwater pierhead range, easterly side of Lake Michigan, Michigan.—The following recommendation made in the Board's last annual report is renewed:

There are two lights here, but no keeper's dwelling, which is much needed. It is estimated that a suitable one can be built for $3,500, and the Board recommends that an appropriation of this amount be made therefor.

503–504. Muskegon pierhead range, Lake Michigan, Michigan.—A new metal tower was erected near the inner end of the south pier, and a fourth-order fixed white light was established there on September 27, 1903, about 51 feet above mean lake level. On the same date the sixth-order fixed red light, shown from a wooden tower, was discontinued and the structure was removed. Some 350 running feet of wooden elevated walk was repaired as an approach from this tower to the pierhead front range and for signal.

505. Muskegon, Lake Michigan, Michigan.—The fourth-order fixed white light on the keeper's dwelling was discontinued on September 25, 1903, owing to the establishment of a light at the inner end of the south pier in the metal tower. The tower was removed from the roof of the dwelling.

508. Grand Haven pierhead, Lake Michigan, Michigan.—Contracts were made for doing the structural steel metal work for the tower, for the cast-iron deck, and for the lantern. This metal work was delivered at the storehouse.

510. Holland pierhead, Black Lake, Lake Michigan, Michigan.—Some 216 running feet of elevated walk was rebuilt. The following recommendation, made in the Board's last three annual reports, is renewed:

Holland is a port of entry for Grand Rapids and is doing a lake business, both passenger and freight, during the season of navigation. The Board is therefore of opinion that a fog signal should be established at Holland in connection with the pierhead light. It is estimated that it can be established here for not exceeding $6,000. The Board therefore recommends that an appropriation of this amount be made therefor.

512. Kalamazoo pierhead, Lake Michigan, Michigan.—The boathouse was moved some 15 feet nearer the river and the boat ways were extended. A drive well was placed and the well was piped.

513. South Haven pierhead, Lake Michigan, Michigan.—A metal beacon was erected to take the place of the old wooden pierhead beacon. The light was shown from the new structure on November 13, 1903. The old frame beacon was removed.

514–515. St. Joseph pierhead range, Lake Michigan, Michigan.—The pierhead beacon, the pole light, and the fog-signal plant were moved to the outer end of the north pier, some 1,000 feet from their original positions, and the light was established at that point. About 1,000 feet of metal elevated walk was erected. The pole light was established at a point about 400 feet in the rear of the front light.

517. Michigan City, Lake Michigan, Indiana.—Detailed plans and specifications were prepared for the establishment of the lights and the erection of a fog-signal, and contracts were made for the structural-steel metal work for the pierhead and the fog-signal building, for the two metal structures for the pierhead and breakwater, and for the cast-iron work for the breakwater pier light. The metal work was delivered at the Milwaukee storehouse ready for shipment to the station. Plans and estimates were prepared for so remodeling the keeper's dwelling as to provide a double set of quarters for the lightkeepers; material therefor was purchased and sent to the station, and a party commenced the work in June, 1904. A contract was made for 1,100 running feet of metal elevated walk for the north breakwater pier.

518. Calumet pierhead, South Chicago, Lake Michigan, Illinois.—The keeper's dwelling was completed. A boathouse was built on the harbor pier, and a steel boat crane was erected near the boathouse.

519. Chicago breakwater, south, Lake Michigan, Illinois.—The old wooden beacon was removed and a new cylindrical steel tower erected in its place on a concrete foundation placed in the crib of the breakwater. The work was completed and the light was shown from the new structure on September 15, 1903.

526. Waukegan Harbor, Lake Michigan, Illinois.—The following recommendation, made in the Board's last two annual reports, is renewed:

> The river and harbor appropriation act approved June 13, 1902, made provision for a harbor with 21 feet of water at this point. The work will probably be undertaken soon, with a possible completion next year. It is necessary in this connection to make provision for a light and fog-signal on the breakwater which is to be built. It is estimated that this light and fog-signal can be established for $10,000, and the Board recommends that an appropriation of this amount be made therefor.

530. Racine Reef beacon, Lake Michigan, Wisconsin.—The act approved on March 3, 1903, appropriated $75,000 for establishing a light tower and fog-signal with winter quarters for keepers on Racine Reef, entrance to Racine Harbor, Wisconsin. Plans and specifications for establishing this light and fog-signal were prepared. Bids were invited for the construction of the crib foundation, concrete pier with light tower and dwelling, and also separate bids for the structural-steel and cast-iron work to be contained in the proposed structure. A bid for the construction of a foundation crib and concrete pier complete, with all the metal work attached thereto, was accepted,

and contracts are now being drawn. A bid was accepted for doing the structural steel work and for doing the cast-metal work. Contracts for these are also being prepared.

531. Racine Breakwater beacon, Lake Michigan, Wisconsin.—This light was discontinued temporarily during May, the post light being moved to the shore pending work on the breakwater under the War Department.

534. Milwaukee pierhead, Lake Michigan, Wisconsin.—A new fog-signal house to replace the old worn-out buildings was completed during the early part of the year, and both boilers were installed in the new building. The engines were removed and Crosby automatics were installed in place of them, and the piping, pumps, and water supply were put in. A well for the fog-signal was cased up in one of the inner pockets of the crib pier. The inner end of the elevated walk, some 50 running feet, which projected onto the harbor pier which is to be rebuilt under the War Department, was removed. The old bridge from the light-house crib to the harbor pier at the inner end of the walk was taken down, and a new bridge with steps from the light-house crib thereto was built at the southeast corner of the crib to the inner end of the elevated walk. Steps were built from the elevated walk down to the harbor pier. Boat davits were placed on the channel side of the harbor crib. Boat davits were placed at the westerly side of the light-house crib, and steps were built to the boat from the crib. The flagstaff was shifted to near the southwest corner of the crib and bolted to the timbers of the crib.

535. Milwaukee Breakwater, Lake Michigan, Wisconsin.—By the act approved on March 3, 1899, funds were provided for the completion of this breakwater. The work was completed by the War Department, and a temporary beacon light was established on the south end, with two five-day lens lanterns showing a red above a white light.

The following recommendation, made in the Board's last five annual reports, is renewed:

By act of Congress approved March 3, 1899, funds were provided for the completion of this breakwater, and there is reason to believe that the work will be completed in November, 1900; meantime the Board has provided that a temporary beacon light be established upon the south end of the breakwater with two five-day lens lanterns showing a red above a white light. A permanent light for the lighting of the breakwater should be provided and should be ready as nearly as possible when the breakwater is completed. The Board is of the opinion that the interests of commerce and navigation require that a fourth-order light should be shown from an iron tower supported by crib and masonry foundations or by a metal caisson filled with concrete, and that a fog-signal should be operated from this point. It is estimated that such structures would cost $75,000, and it is recommended that an appropriation of that amount be made therefor.

The following, which appeared in the Board's annual report for 1902 and 1903, is also renewed:

Since the foregoing recommendation was made the matter has presented itself in a different form. The original recommendation contemplated a fourth-order light at or near the southerly end of the new breakwater. It is now considered that a flashing light of the third order should be provided, as it would make a more prominent light. The elevation should not be less than 105 feet above mean lake level. This, while it is somewhat higher than was at first proposed, would enable the light to be seen well past if not over North Point, looking from the southward. In consequence of this increased height, and the increased cost of a third-order over a fourth-order station, and also the increase in the

cost of materials of all kinds, it is found that the cost of the light-station will be materially increased. With a higher focal plane, a more powerful light, and a first-order fog-signal at this station, the light at North Point, Milwaukee, could be discontinued. It is estimated that a proper light and fog-signal can not be established on Milwaukee Breakwater at a cost less than $100,000, hence the Board recommends that an appropriation of this amount be made therefor.

538. Port Washington, Lake Michigan, Wisconsin.—This light was, on October 31, 1903, discontinued.

539. Sheboygan Breakwater beacon, Lake Michigan, Wisconsin.—The sea-wall protection on the southeast end was extended 10 feet.

540. Sheboygan pierhead, Lake Michigan, Wisconsin.—A project was prepared for the construction and erection of a metal tower with 50 feet of focal plane. Bids were invited for the material, and contracts were made for furnishing the structural metal work. A contract was also made for an improved circular cast-iron lantern. These works, with the exception of the lantern, were delivered at the Milwaukee light-house storehouse ready for shipment to the station. Under contract, some 1,700 running feet of metal elevated walk was delivered here. A portion of this was put up in the early fall of 1903 and the remainder is now under construction. A concrete foundation for the metal tower at the pierhead is being placed and the tower will be erected soon. On the completion of this tower, the fifth-order fixed white light now shown at Sheboygan will be established at this place and the sixth-order fixed red pierhead light will be discontinued.

541. Sheboygan, Lake Michigan, Wisconsin.—This fifth-order fixed white light will be discontinued, and the reservation will be retained, probably, as a site for the keeper's dwelling as soon as the pierhead tower is completed.

542. Manitowoc Breakwater, Lake Michigan, Wisconsin.—Owing to the extension of the breakwater in an easterly direction, the light and fog-signal were moved about 400 feet to the extreme easterly end of the completed breakwater and established there on May 17, 1904. Various repairs were made.

544. Two Rivers pierhead, Lake Michigan, Wisconsin.—The old elevated walk, some 598 running feet long, over portions of the pier recently renewed by the War Department, being in dilapidated condition, was removed, and about 360 running feet was replaced on the new pier. Some 370 feet of life line was placed on the revetment in the pier recently constructed from the inner end of the elevated walk to the shore.

The following appeared in the annual report of the Board for 1903:

There is no dwelling at this station. A suitable structure for the keepers can be erected at a cost not to exceed $3,500, and an appropriation of that amount is respectfully recommended therefor. It would appear that the Department at one time purchased a piece of land near the inner end of the north pier, and it is probable that this may serve as a site for the dwelling without an additional purchase.

545. Twin River Point, Lake Michigan, Wisconsin.—The clockwork of the illuminating apparatus was taken down and thoroughly repaired, and was installed in the tower. In order to do this work it became necessary to temporarily change the light from a fixed white, varied by a white flash every 30 seconds, to a fixed white light. On March 4, 1904, the former characteristic was restored. The

old smokestacks of the fog-signal plant were replaced by a single new steel stack with double breeching. Various repairs were made.

546–547. Kewaunee pierhead range, Lake Michigan, Wisconsin.—An eight-day post lantern was placed on the top of the outer end of the conduit to be temporarily shown. The act approved on June 28, 1902, appropriated $5,000 for the erection of a keeper's dwelling. Nothing has been done toward the construction of this work, as no suitable site sufficiently near the station for its proper service has yet been obtained.

548–549. Ahnapee pierhead range, Lake Michigan Wisconsin.—The following recommendation of the past four years is renewed:

> This station consists of two lights on the Government pier, but there is no dwelling for the keeper. It is estimated that an appropriate structure can be erected for $3,500, and it is believed that a site for the dwelling can be obtained without cost to the Government. It is recommended that an appropriation of the above amount be made for the purpose.

550. Sturgeon Bay Canal pierhead, Lake Michigan, Wisconsin.—On July 18, 1903, the fifth-order light was moved to and established without change of characteristic in the new structure—a combined steel fog-signal house and tower at the outer end of the north pier. New fog-signal boilers were installed, together with a water tank, a duplex steam pump, and a new smokestack. The engines formerly in use were overhauled and placed upon new bases, and the work was completely piped and tested.

551. Sturgeon Bay Canal, Lake Michigan, Wisconsin.—The project for correcting the continued vibration of the tower, which interfered seriously with the revolving apparatus of the lens, by introduction of skeleton bracing, was completed. The material having been prepared under contract and delivered at the station, was erected and riveted in place. Since the completion of the work there is no noticeable vibration of the tower, and the clockwork which was formerly in use seems to be doing good work, the new clock for the station not having been yet introduced. Plans and estimates were prepared for the enlargement of the keeper's dwelling to provide two sets of quarters and a single room to accommodate three keepers.

555. Sturgeon Bay Canal, northwest entrance to cut No. 4, Lake Michigan, Wisconsin.—The old crib here being located almost in the center of the new dredged channel under course of construction by the War Department, a new crib with a lamp house thereon was erected, and the light established on it on November 5, 1903, on the northerly side of the channel at the Elbow, about 330 feet N. by W. $\frac{1}{8}$ W. from the old location. The old crib was removed.

559. Porte des Morts, Green Bay, Lake Michigan, Wisconsin.—Bids were accepted for establishing a compressed air fog-signal plant here with an automatic siren, and material was delivered for transportation to the station. The material was loaded on the tender during the fall, but it was found that the season was so far advanced that it could not be delivered at the island and it was returned to Milwaukee. In the early spring the material was again loaded on the light-house tender *Hyacinth* and was delivered at the station, together with the necessary machinery, consisting of 16-horsepower engines with compressors, to install the plant. A working party was landed at the station in the latter part of June and the work will be done soon.

. *Fisherman Shoal, Lake Michigan, Wisconsin.*—The following recommendation was made in the Board's annual reports for 1899 and 1903:

This shoal rock, which is near Rock Island, forms a dangerous obstruction to the increasing number of vessels passing in this vicinity. It is proposed to establish a light and fog-signal on this shoal in the interest of this commerce. It is estimated that it can be done for $50,000, and it is recommended that an appropriation of this amount be made therefor.

The following recommendation, made in the Board's last annual report, is renewed:

Because of the great rise in building materials and the cost of working at so exposed a locality, it is recommended that the amount be increased to $75,000.

564. St. Martins Island, Lake Michigan, Michigan.—The metal work for the tower was completed under contract, on September 5, 1903; and the fog-signal boilers, also under contract, were completed on September 2, 1903. A working party, with material, was landed at the station. All the buildings, consisting of a metal tower, a brick dwelling, a brick fog-signal house, a brick oil house, a frame boathouse with boatways, landing and tramway from the boathouse to the house, some 800 running feet, were built, with minor exceptions. In the early part of June the station was finished. The fog-signal apparatus was set up, piped, and tested ready for use. The lens apparatus was set up in the tower, and the station was reported as finished on June 25, 1904. The Board is unable to put the light into operation as it is without funds with which to pay more light-keepers.

. *Little Gull Island, St. Martin Passage, entrance to Green Bay, Lake Michigan, Michigan.*—The following statement and recommendation made in the last and many previous annual reports of the Light-House Board is renewed:

The establishment of a light and fog-signal here, at a cost not to exceed $20,000, was authorized by the act approved February 15, 1893, but no appropriation therefor has yet been made.

. *Pointe aux Barques, Manistique, Lake Michigan, Michigan.*—The following appeared in the Board's annual reports for the last six years, and the recommendation is renewed:

The establishment of the Lake Michigan light and fog-signal vessels, Squaw Island light and fog-signal, Seul Choix Pointe light and the additional buoyage authorized in the northern part of Lake Michigan has made those waters reasonably safe for navigation on the route from the Straits of Mackinac to Green Bay ports, with the exception of a stretch of 45 miles between Seul Choix Pointe and Poverty Island. Pointe aux Barques is a prominent headland 24¼ miles northeast one-half north from Poverty Island light, and 23 miles west-southwest from Seul Choix Pointe light. Poverty Island light is visible 16¾ miles, and Seul Choix Pointe is visible 15 miles. There is, therefore, a space of 13¾ miles off Pointe aux Barques not covered by any light. The town of Manistique, situated at the mouth of Manistique River, at the head of the bay between Seul Choix and Pointe aux Barques, has a large lumber trade, and many vessels call at that port. The route north of the Beavers and along the coast down to Poverty Island Passage into Green Bay is the usual route of the ore vessels to and from Lake Erie ports in northwest winds, and the shipments of ore this year from Escanaba are largely in excess, it is said, of those of any port in the world. The Board recommends that a coast light and fog-signal be established on Pointe aux Barques, Lake Michigan, Michigan. It is estimated that this can be done for a sum not to exceed $32,000, and it is recommended that an appropriation of this amount be made therefor.

The establishment of a coast light and fog-signal here, at a cost not to exceed $32,000, was authorized by the act approved on February 15, 1893, but no appropriation therefor has yet been made. The Board recommends that this amount be appropriated therefor.

592. Elbow beacon, Green Bay, Wisconsin.—The beacon that was carried away by the ice was renewed. Six piles 45 feet long were driven and a platform was built on them, on which a house was erected.

594. Menasha River, lower beacon, Little Butte des Morts Lake, Head of Fox River, Wisconsin.—The beacon that was carried away by ice was renewed and stone riprap placed around it.

REPAIRS.

Repairs, more or less extensive, were made at the following-named light-stations:

472. Waugoshance, Lake Michigan, Mich.
474. Skilligallee, Lake Michigan, Mich.
476. Beaver Island, Lake Michigan, Mich.
477. Little Traverse, Lake Michigan, Mich.
478. Petoskey beacon, Lake Michigan, Mich.
480. South Fox Island, Lake Michigan, Mich.
482. Grand Traverse, Lake Michigan, Mich.
484. North Manitou, Lake Michigan, Mich.
486. South Manitou, Lake Michigan, Mich.
492. Manistee pierhead, Lake Michigan, Mich.
493. Manistee, Lake Michigan, Mich.
496–497. Ludington pierhead range, Lake Michigan, Mich.
502. White River, Lake Michigan, Mich.
507. Bank Point beacon, Lake Muskegon, Lake Michigan, Mich.
523. Chicago Harbor, Lake Michigan, Mich.
525. Grossepoint, Lake Michigan, Ill.
528. Kenosha Breakwater beacon, Lake Michigan, Wis.
529. Kenosha pierhead, Lake Michigan, Wis.
532. Racine pierhead, Lake Michigan, Wis.
533. Wind River, Lake Michigan, Wis.
543. Manitowoc pierhead, Lake Michigan, Wis.
560–561. Plum Island range, Lake Michigan, Wis.
565. Poverty Island, Lake Michigan, Mich.
567. Seul Choix Pointe, Lake Michigan, Mich.
568. Squaw Island, Lake Michigan, Mich.
582. Menominee pierhead, Green Bay, Mich.

LIGHT-VESSELS.

469. White Shoal light-vessel, No. 56, Lake Michigan, Michigan.—This wooden steam screw light-vessel was built in 1891, is of about 101 tons burden, and has a 6-inch steam fog-signal. She left her station on December 5, 1903, and went into winter quarters at Cheboygan, Mich. Her boilers were inspected on April 2, 1904. She returned to her station on May 7, 1904. Various repairs were made.

471. Grays Reef light-vessel, No. 57, Lake Michigan, Michigan.—This wooden steam screw light-vessel was built in 1891, is of about 101 tons burden, and has a 6-inch steam fog-signal. She left her station on December 5, 1903, and went into winter quarters at Cheboygan, Mich. Her boilers were inspected on April 2, 1904. Various repairs were made.

569. Lansing Shoal light-vessel, No. 55, Lake Michigan, Michigan.—This wooden steam screw light-vessel was built in 1891, is of about 101 tons burden, and has a 6-inch steam fog-signal. She left

her station on December 5, 1903, and went into winter quarters at Cheboygan, Mich. Her boilers were inspected on April 2, 1904. On May 7, 1904, she returned to her station.

572. Eleven-Foot Shoal light-vessel, No. 60, Lake Michigan, Michigan.—This wooden light-vessel was built in 1893, is of about 100 tons burden, and has a 6-inch steam fog-signal. She left her station on December 1, 1903, and went into winter quarters at Escanaba, Mich. On May 5, 1904, she returned to her station.

584. Peshtigo Reef light-vessel, No. 77, Green Bay, Wisconsin.—The act approved on June 28, 1902, appropriated $15,000 to establish a light-vessel with a fog-signal near Peshtigo Reef, in Green Bay, and $5,000 in addition has since been appropriated. Arrangements are being made for building the vessel by contract. She is to have about 110 tons displacement, length 75 feet, breadth molded 21 feet 6 inches, depth of hold 9 feet 8 inches. She will have four staterooms, a bathroom, and a galley located in the after deck house. She will be provided with a hollow steel lantern mast, with standard rigging, steering gear, capstan, chain stoppers, anchor davits, hawse pipes, etc. Ample space is provided in the hold for a year's supply of oil and stores.

FOG SIGNALS OPERATED BY STEAM OR HOT-AIR ENGINES.

465. Old Mackinac Point, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 335 hours and consumed about 54 cords of wood.

469. White Shoal light-vessel, No. 56, Michigan.—This 6-inch steam whistle was in operation some 262 hours and consumed about 13 tons of coal and 3 cords of wood.

471. Grays Reef light-vessel, No. 57, Michigan.—This 6-inch steam whistle was in operation some 248 hours and consumed about 10 tons of coal and 3 cords of wood.

472. Waugoshance, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 274 hours and consumed about 9 tons of coal and 26 cords of wood.

474. Skilligallee, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 217 hours and consumed about 23 cords of wood.

476. Beaver Island, Michigan.—This first-class steam siren, in duplicate, was in operation some 96 hours and consumed about 25 cords of wood.

480. South Fox Island, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 402 hours and consumed about 7 tons of coal and 74 cords of wood.

482. Grand Traverse, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 318 hours and consumed about 49 cords of wood.

484. North Manitou, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 651 hours and consumed about 70 cords of wood.

486. South Manitou, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 1,011 hours and consumed about 77 cords of wood.

487. Point Betsie, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 463 hours and consumed about 54 cords of wood.

488. Frankfort pierhead, front, Michigan.—This compressed-air siren was in operation some 309 hours and consumed about 118 gallons of oil.

492. Manistee pierhead, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 700 hours and consumed about 53 tons of coal and 4 cords of wood.

497. Ludington pierhead, rear, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 825 hours and consumed about 62 tons of coal and 4 cords of wood.

503. Muskegon pierhead, front, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 511 hours and consumed about 42 tons of coal and 3 cords of wood.

508. Grand Haven pierhead, Michigan.—This compressed-air siren was in operation some 280 hours and consumed about 542 gallons of oil.

514. St. Joseph pierhead, front, Michigan.—This 10-inch steam whistle, in duplicate, was in operation some 117 hours and consumed about 9 tons of coal and 2 cords of wood.

518. Calumet pierhead, Illinois.—This 10-inch steam whistle, in duplicate, was in operation some 189 hours and consumed about 40 tons of coal and 4 cords of wood.

523. Chicago Harbor, Illinois.—This 10-inch steam whistle, in duplicate, was in operation some 1,293 hours and consumed about 83 tons of coal and 10 cords of wood.

525. Grossepoint, Illinois.—This 10-inch steam whistle, in duplicate, was in operation some 189 hours and consumed about 24 tons of coal and 1 cord of wood.

529. Kenosha pierhead, Wisconsin.—This compressed-air siren, in duplicate, was in operation some 204 hours and consumed about 105 gallons of oil.

533. Wind Point, Racine Point, Wisconsin.—This compressed-air siren, in duplicate, was in operation some 609 hours and consumed about 906 gallons of oil.

534. Milwaukee pierhead, Wisconsin.—This 10-inch steam whistle, in duplicate, was in operation some 663 hours and consumed about 40 tons of coal and 44 cords of wood.

540. Sheboygan pierhead, Wisconsin.—This 10-inch steam whistle, in duplicate, was in operation some 466 hours and consumed about 68 tons of coal and 2 cords of wood.

542. Manitowoc Breakwater, Wisconsin.—This 10-inch steam whistle, in duplicate, was in operation some 689 hours and consumed about 64 tons of coal and 4 cords of wood.

545. Twin River Point, Wisconsin.—This 10-inch steam whistle, in duplicate, was in operation some 486 hours and consumed about 69 tons of coal and 4 cords of wood.

547. Kewaunee pierhead, rear, Wisconsin.—This 10-inch steam whistle, in duplicate, was in operation some 509 hours and consumed about 46 tons of coal and 4 cords of wood.

550. Sturgeon Bay Canal pierhead, Wisconsin.—This 10-inch steam

78. Buffalo North Breakwater, south end, entrance to Buffalo Harbor, New York.—A small inclosed iron beacon was erected about 30 feet from the southeasterly end of the breakwater. A fixed red lens-lantern light was first shown from this structure on September 1, 1903, taking the place of a temporary fixed red post-lantern light.

79. Buffalo Breakwater, north end, southerly side of the main entrance to Buffalo Harbor, New York.—The following recommendation was made in the Board's last two annual reports:

> This station is situated at the north end of the old breakwater at Buffalo, N. Y., and is the fixed outpost for the main entrance to Buffalo Harbor. The structure is located on a crib, which is within the breakwater, and room allotted to it is very limited. The two light-keepers stationed here take care of the fourth-order light and operate the steam fog-signal and a fog bell, and all this requires mechanical ability and experience of a high order. The yearly salary of the keeper is $560 and that of the assistant keeper $450, and no dwelling is provided for them. This is an important station and should command the services of first-class men for keepers. But the salaries paid are inadequate, although they would be sufficient if a proper dwelling was furnished them and the keepers did not have to hire quarters for their families and pay rent for them out of their meager compensation. A double dwelling can be built on the shore, on Government land, near the south pier. This site would be convenient for these keepers, as they must row to and from the light-station in a small boat. It is estimated that a suitable keepers' dwelling can be erected here for $6,200, and the Board recommends that an appropriation of that amount be made therefor.

80. Buffalo, entrance to Inner Buffalo Harbor, Lake Erie, New York.—The keeper's dwelling was moved about 53 feet west and 127 feet north to a new site. About 550 feet of tight board fence 6 feet high was built, partly inclosing grounds occupied by the keeper's dwelling. Minor repairs were made.

81, 82. Buffalo Breakwater, south entrance, north and south sides, Buffalo Harbor, New York.—The keeper's dwelling was completed. The two towers for lights, one on the south side and the other on the north side of the entrance through the breakwater, were completed, and were on September 1, 1903, lighted for the first time. Work on the fog-signal house was begun on May 10, 1904, and the four walls were completed, and the structural iron is in place ready for the roof covering. Work was begun on the pile and timber bulkhead on May 26, 1904, and is well advanced.

94, 95. Conneaut range, entrance to Conneaut Harbor, Lake Erie, Ohio.—To permit the repair of piers by the War Department, the rear beacon was moved southerly along the west pier, on the range line, about 112 feet, with a focal plane of light 4 feet higher than formerly. By the act approved on June 28, 1902, an appropriation of $8,400 was made for building a light-house on the new pierhead for the front light, and to raise the existing structure on the old pierhead to a proper height to have it serve with the proposed new front light as a range for vessels approaching Conneaut Harbor. Plans for the new pierhead light beacon were prepared. By the act approved on April 28, 1904, any balance remaining from the appropriation made by the act approved on June 28, 1902, for constructing a light-house and raising the existing structure on the old pierhead was made available for an addition to and the remodeling of the keeper's dwelling at Conneaut Harbor, Ohio. The bids for furnishing all the materials and labor and constructing and erecting the light-house on the pierhead were all rejected, the prices being excessive,

and its construction was authorized by hired labor and open-market purchases of materials. About all the lumber required in the work has been purchased and delivered at the Buffalo light-house depot. The cast and wrought iron work and lantern are being made at the shops. Delay in completing the pierhead, which is being built by the War Department, prevents the building of the light-house at the site. The completion of the pierhead is promised in season to erect on it a light-house during the coming fall.

96, 97. Ashtabula, entrance to Ashtabula Harbor, Lake Erie, Ohio.—Work has progressed on the west breakwater light and fog-signal at such times as it could be advantageously carried on by hired labor and open-market purchases of materials. The concrete bulkhead or wall surrounding the site on the pierhead was completed, and the concrete foundation of the tower and fog-signal house was completed to a point ready for setting the iron posts. Much of the material has been already obtained and is being delivered at the site. The fog-signal apparatus, which will consist of a siren operated by oil engines, in duplicate, and compressed air, is being provided.

98, 99, 100. Fairport, mouth of Grand River, Lake Erie, Ohio.—Some 805 square yards of cement walks with 45 steps and 91 running feet of wooden walks with 27 steps have been built. The rear beacon was moved about 53 feet northerly on the range line and secured to the concrete superstructure of the east pier. A square iron oilhouse was erected on a concrete foundation about 50 feet north from the tower of the main light. Various repairs were made.

101, 102, 103, 104. Cleveland, entrance to Cleveland Harbor, Lake Erie, Ohio.—The iron covering of the inclosed part of the east breakwater beacon was replaced with painted canvas. A life line on five iron posts was put up, leading from the ladder on the face of the breakwater east of the beacon a distance of about 50 feet. Oak guards were put up on the face of the breakwater to protect the ladder. The beacon on the west breakwater, east end, was raised and set upon a timber substructure 20 feet high, octagonal in plan, with vertical sides. The light was, on August 24, 1903, first shown at the new elevation of focal plane. Various repairs were made. By the act approved on April 28, 1904, appropriating $5,000 for repairing, remodeling, and making permanent the foundation, etc., of the Cleveland, Ohio, west breakwater light-station, plans and specifications were made and bids were asked for doing the work.

107. Vermilion, entrance to Vermilion Harbor, Lake Erie, Ohio.—About 120 running feet of elevated walk was rebuilt. Various repairs were made.

111, 112. Cedar Point, entrance to Sandusky Bay, Lake Erie Ohio.—The boathouse has been raised and leveled and provided with new foundation timbers. On March 31, 1904, the two lights of this station were permanently discontinued. The illuminating apparatus was removed to the Buffalo light-house depot.

121. South Bass Island, Lake Erie, Ohio.—About 84 running feet of cement walk was built, and a flight of stairs was built from the water up the bank to make landing more convenient. Various repairs were made.

126. West Sister Island, Lake Erie, Ohio.—About 110 running feet of cement walk was built. A crib 25 feet long for a landing wharf

at the bridge opening was built and sunk in place. Various repairs were made.

127. Turtle Island, entrance to Maumee Bay, Lake Erie, Ohio.—This fourth-order fixed white light was, on May 15, 1904, permanently discontinued. Its fourth-order lens was dismounted and packed, and, with the rest of the illuminating apparatus, was taken to the Maumee Bay ranges light-station to be shipped to the Buffalo light-house depot. The premises and buildings were temporarily placed in the care of the keeper of the Maumee Bay ranges light-station.

128. Toledo Harbor, entrance to straight channel, Maumee Bay, Lake Erie, Ohio.—This station was completed. The illuminating and fog-signal apparatus were installed. The light, first exhibited on May 23, 1904, is a third order, showing one red and two white flashes alternately at intervals between flashes of 10 seconds. The focal plane of the light is 72 feet above mean lake level and is visible about 16 miles from points 15 feet above lake level. The fog-signal is a siren operated by 13-horsepower oil engines and compressed air. On June 1, 1904, it was made ready for operation.

161, 162. Grosse Isle south channel range, Detroit River, Michigan.—The keeper's dwelling, an old house, with its outhouses, was moved from their previous location on Mamajuda Island, across the Wyandotte channel of the Detroit River, a distance of about 1½ miles, and located about 100 feet northwesterly from the front beacon. A walk was built from the dwelling to the embankment, with steps up the bank connected with the walk between the beacons. Some 960 tons of riprap stone were placed on the slopes of the embankment connecting the beacons, and earth was filled in behind. A square iron oilhouse was erected.

The following recommendation made in the Board's last eleven annual reports is renewed:

> A new dwelling is needed for the keeper of this range. * * * A proper dwelling can be built on a foundation partially in the water for not exceeding $5,000, and it is recommended that this amount be appropriated for that purpose.

161–162, 168–169, 170–171, 172–173, 174–175. Detroit River light-stations, Michigan.—The light-stations at Grosse Isle south channel range, Grassy Island south channel range, Mamajuda range, Ecorse range, and Grassy Island north channel range, Detroit River, Michigan, were built on piles or on mud banks. The wash from passing steamers is destroying the foundations of these stations. It is proposed to build up the space under each building with riprap, thus making a solid and permanent foundation. In the Board's last annual report it was recommended that an appropriation of $20,000 be made for this purpose. It is now proposed to have the transportation of the stone for riprap done by the light-house tender *Warrington*, which will largely reduce the cost of the work. It is estimated that the work, as it is now proposed to do it, can be done for $5,000. The Board recommends that an appropriation of this amount be made therefor.

166, 167. Grosse Isle north channel range, Detroit River, Michigan.—The keeper's dwelling was completed, and the two beacons were painted.

172, 173. Ecorse range, Detroit River, Michigan.—The keeper's dwelling, for which $5,000 was appropriated by the act approved on June 28, 1902, was completed. About 100 cubic yards of earth was dredged and placed around the dwelling. About 100 running feet of walk, 2 feet wide, was built from the keeper's dwelling. A boat-house was built on the westerly side of the embankment. On April 5 this sixth-order fixed red light, heretofore exhibited from a detached tower, was established, without change in location, in a square tower projecting from the southerly side of the keeper's dwelling. The height of the focal plane of this light was thus increased to 31½ feet above mean lake level. A square iron oilhouse was built on a concrete base. Various repairs were made.

REPAIRS.

Repairs, more or less extensive, were made at the following stations:

47. Sunken Rock, St. Lawrence River, N. Y.
61. Stony Point, Lake Ontario, N. Y.
62. Oswego Breakwater, entrance to Oswego Harbor, Lake Ontario, N. Y.
63. Oswego, Lake Ontario, N. Y.
64, 65. Fair Haven range, entrance to Little Sodus Bay, Lake Ontario, N. Y.
70. Braddock Point, Lake Ontario, N. Y.
75, 76. Niagara River range, Niagara River, N. Y.
77. Horseshoe Reef, entrance to Buffalo Harbor, N. Y.
79. Buffalo Breakwater, north end, southerly side of main entrance to Buffalo Harbor, N. Y.
85. Dunkirk, Dunkirk Harbor, Lake Erie, N. Y.
87. Presqu'ile fog-signal station, Erie Harbor, Lake Erie, Pa.
89, 90, 91. Presqu'ile pierhead, Erie Harbor, Lake Erie, Pa.
93. Presqu'ile, Lake Erie, Pa.
105, 106. Black River range, entrance to Black River Harbor, Lake Erie, Ohio.
109. Huron, entrance to Huron Harbor, Lake Erie, Ohio.
113, 114. Sandusky Bay, outer range, Lake Erie, Ohio.
115, 116. Sandusky Bay, inner range, Lake Erie, Ohio.
122. Green Island, Lake Erie, Ohio.
124. Port Clinton, Lake Erie, Ohio.
130, 131. Maumee Bay, straight channel ranges, Lake Erie, Ohio.
133, 134. Manhattan range, Maumee Bay, Ohio.
135. Monroe, entrance to Raisin River, Lake Erie, Mich.
136. Detroit River, mouth of Detroit River, Lake Erie, Mich.
168, 169. Grassy Island south channel range, Detroit River, Mich.
170, 171. Mamajuda range, Detroit River, Mich.
174, 175. Grassy Island, north channel range, Detroit River, Mich.

OILHOUSES FOR LIGHT STATIONS.

A square iron oilhouse has been erected on a concrete foundation at each of the following-named light-stations:

Cross-Over Island, N. Y.
Oak Orchard, N. Y.
Fairport, Ohio.
Grosse Isle south channel range, Mich.
Ecorse range, Mich.

The metal work for an iron oilhouse has been delivered at each of the following-named light-stations, to be erected later when a working party visits the stations to do other work:

Buffalo, Main, N. Y.
Conneaut, Ohio.
Port Clinton, Ohio.
Grassy Island north channel range, Mich.

The following recommendation, relative to the need of a permanent range to replace the present lights on pile structures, appears on pages 175 and 176 of the Board's Annual Report for 1901:

"The following recommendation made in the Board's last annual report is renewed:

"'The fact that the piles on which these two lights stand are always carried away by ice in the winter, and during the summer are once or twice run down by passing vessels, shows the need for structures of some strength and permanence which will serve as day beacons for the range and from which lights can be exhibited at night. The present arrangement has proven to be inadequate, as the light is not visible at times when it should be under reasonable atmospheric conditions. Something larger and more substantial is required.

"'The rear beacon should be placed as near the national boundary line as practicable. It should be a skeleton tower about 72 feet high, made of angle iron, resting upon a crib filled with stone and concrete for a foundation. This will be about 20 feet square, standing in from 8 to 10 feet of water. A suitable disk should be attached for a day beacon and a strong lens-lantern light should be exhibited from it at night.

"'The front beacon should be placed about a mile in front of the rear beacon, both being in the line of the axis of the dredged 20-foot Lake St. Clair channel. It will thus stand in from 18 to 20 feet of water. A suitable riprap foundation, with its top about 5 feet above the bottom of the lake, should first be prepared. Upon this a crib 36 feet square should be built and carried up to a height of about 7 feet above the surface of the water. This should be filled with stone, and it should be plated with iron in the vicinity of the water line. On the top of this should be built a suitable keeper's dwelling, surmounted with a tower from which to exhibit a fourth-order light. It is estimated that this can be done at a cost not exceeding $12,000, and the Board recommends that an appropriation of this amount be made therefor.'"

From the foregoing recommendation it will be seen that the estimate of $12,000 was for the erection of two structures of strength and permanence, the rear one to be placed in from 8 to 10 feet of water near the international boundary line, and the front one to be placed in from 18 to 20 feet of water about 1 mile from the rear beacon. Since that recommendation and estimate were made, it has become apparent that the site selected for the rear light is not advantageous, as the distance between the two range lights would be great. The position of the rear light so far back from the front light would prevent its ready use in thick weather, as there would be times when the front light only would be visible.

The Light-House Board, at its session on March 3, 1902, considered the matter. It then decided that the distance between the lights ought to be less, and that the rear light should be placed upon a tower about 60 feet above the water surface built upon a crib 30 feet square, where the most economical foundation can be secured, about 2,000 feet in the rear of the front light.

The depth of water at this new location is greater than at the site first selected, making an additional expenditure necessary to construct the crib foundation. Prices of labor and material, especially of timber, have advanced since the estimate of $12,000 was made. The Board therefore estimates that $18,000 will now be needed to establish these range lights.

This Department concurs with the Board in this matter, and therefore has the honor to recommend that $18,000, instead of $12,000, as first suggested, be appropriated for establishing the Isle aux Pêches range lights, to mark the 20-foot channel in Lake St. Clair, Michigan.

208. St. Clair River ranges, Michigan.—A new tripod with daymark for Russell Island upper light, No. 12, was built at the Detroit light-house depot, and was erected here. Minor repairs were made to many of the pile cluster lights along this river.

220–221. Sand Beach Harbor of Refuge, northern entrance, east and west lights, Lake Huron, Michigan.—These lights were temporarily discontinued on June 26, 1904, owing to harbor improvements being made by the War Department. When the improvements are completed the lights will be reestablished.

224. Tawas, Saginaw Bay, Lake Huron, Michigan.—The following

recommendation made in the Board's last four annual reports is renewed:

Now that a fog-signal is established at this point, and an assistant keeper is needed for its care and operation, a dwelling for his use is a necessity. It is estimated that such a dwelling, with a small barn and other necessary outhouses, can be built for $5,000. The Board therefore recommends that an appropriation of this amount be made therefor.

The boat landing wharf is being rebuilt.

—. *Middle Island, Lake Huron, Michigan.*—The act approved on March 3, 1903, appropriated $25,000 for the establishment of a light and fog-signal on this island. The site was purchased. Contract was made for building the tower, double dwelling, fog-signal building and landing, tramway, boathouse, and landing. The contractors began work at the site on June 11, 1904, and have made fairly good progress. The fog-signal machinery and metal work for the tower are ready.

238. Presque Isle, Lake Huron, Michigan.—The act approved on April 28, 1904, appropriated $5,000 for building a keeper's dwelling at this light-station. This work will be commenced soon.

240. Spectacle Reef, northwesterly end, Lake Huron, Michigan.—The act approved on April 28, 1904, appropriated the further sum of $43,900 for completing the work of reconstructing the foundation of this light and fog-signal station. Plans and specifications were prepared and bids invited. The only bid received ($26.40 a cubic yard of concrete in place) being considered exorbitant and in excess of the amount for which it could be done by the Government, was rejected. Arrangements were then made to do the work by purchasing the material under the regulations and by the labor of persons in the employ of the Government. A plant was procured and a steam barge was chartered. Cement, lumber, metal work, and other materials required for the work were advertised for and purchased. The chartered steamer *Miami* left Detroit on May 12, 1904, with material, appliances, and a working party, and arrived at the reef on the 17th, and a working party was established there on the 26th.

The double compartments of the four northwest corner pockets were cleared of stone ballast and timber, about 900 cubic yards of stone and 27,000 feet of timber being removed. The compartments were sheathed from the reef to the top of the pier, and 254 cubic yards of concrete were placed. This practically completes the concreting of the northwest corner block of the pier. The boat harbor was extended and a mooring pier was built at Bois Blanc Island to obtain gravel for this work and a bunk shed was built there for the workmen. The work will be pressed as rapidly as practicable.

—. *Nine-Mile Point, Michigan.*—A light-house and fog-signal here would be an aid to navigation. It is estimated that this station could be built for not exceeding $38,000, and the Board recommends that an appropriation of this amount be made therefor.

242. Cheboygan, entrance to Cheboygan Harbor, Michigan.—A walk was laid from the dwelling to the oilhouse, the existing walks were repaired, and minor repairs were made to the fog-signal.

243. Cheboygan Crib, mouth of Cheboygan River, Michigan.—The work of replacing the wooden superstructure of the foundation pier by masonry and concrete was completed in September, 1903, under contract. The timber work of the pier was removed to a level 12

inches below water, and upon the remaining portion a concrete and masonry superstructure, containing a foundation for the light tower, an oil cellar, and cellar under the dwelling, was built.

244-245. Cheboygan River range, Michigan.—A frame woodshed and storehouse was built, and various repairs were made. The act approved on July 1, 1898, appropriated $1,750 for the purchase of additional land for the front range. The question of its ownership is now pending in court.

246. Bois Blanc, Straits of Mackinac, Michigan.—The boat harbor and landing pier was extended 64 feet, filled with stone, and decked. Various repairs were made.

252. Detour, Lake Huron, Michigan.—The following recommendation was made in the Board's last two annual reports:

> It will be to the advantage of commerce to change the Detour light in such manner as to make it more conspicuous and also more definite. It seems that the best way to now accomplish this is to change the characteristic of the light so that it will be fixed, varied by a flash, and to this end, that a new lens should be purchased for this light. It is estimated that such a lens will cost, when mounted and in position for duty, $3,600, and the Board recommends that an appropriation of this amount be made therefor.

The Board now recommends that this amount be increased $400, and that an appropriation of $4,000 be made for effecting this change, the additional amount being the estimated cost of the labor for placing the lens in position at the present rate of wages.

256. Round Island, St. Marys River, Michigan.—A frame woodwas surveyed and leveled and monuments were set.

256. Round Island, St. Marys River, Michigan.—A frame woodshed was built and the boat landing was extended some 20 feet. A survey was made of the light-house site and the boundaries were marked with concrete monuments.

259-260. Winter Point range, St. Marys River, Michigan.—Surveys were made of the sites of this range and the boundaries were marked with concrete monuments. A channel was dredged.

261-262. Pilot Island range, St. Marys River, Michigan.—A site for the front range and dwelling was bought and the deed was recorded. The materials were purchased for the beacons and for remodeling and repairing the keeper's dwelling, and, with a working party, were landed at the station. The building is well under way; the structure is inclosed and the plastering commenced.

268-269. Point of Woods range, St. Marys River, Michigan.—Surveys were made of these sites and the boundaries were marked with concrete monuments.

272-273. Dark Hole range, St. Marys River, Michigan.—Surveys were made of these sites and the boundaries were marked with concrete monuments.

274. Harwood Point range, St. Marys River, Michigan.—The target of the front light was repaired and replaced.

286. Middle Neebish Cut range rear light, No. 9, Hay Lake channel, St. Marys River, Michigan.—The post from which this light is shown was blown down during a storm on September 23, and on October 4, 1903, it was rebuilt and the light was reestablished.

288-289. Stations 10 and 11, Hay Lake channel, St. Marys River, Michigan.—A 16-foot crib was placed at the outer end of the boat landing. Various repairs were made.

292. West side, north entrance, No. 15, Hay Lake channel, St. Marys River, Michigan.—The foundation crib from which this light was shown was carried away by an unknown vessel. A float was anchored over the remains of the crib, from which a temporary light is shown from a white post.

300. Six-Mile Point range, Hay Lake channel, St. Marys River, Michigan.—The site upon which the rear beacon is built was surveyed and the boundaries were marked with concrete monuments.

309–310. Vidal Shoals channel range, St. Marys River, Michigan.—The work of raising the focal plane of the front tower and rebuilding the rear tower was completed in August, 1904. The front light is shown from a conical iron tower 30 feet to focal plane. It was raised 10 feet by adding a lower story composed of two tiers of iron panels, the new work being joined to the old at the flanges with drift-bolts. The tower was placed on a new brick foundation. The pyramidal skeleton iron tower from which the rear light of the range was shown was replaced by an octagonal frame tower 52 feet to focal plane, surmounted by a lantern, and was placed on a timber crib 24 feet square and 9 feet high. Both structures were painted white. Temporary fixed red lens-lantern lights were exhibited from these towers from June 5, 1904, until the close of navigation. The permanent lights are shown from fourth-order lenses. They were shown on the night of May 2, 1904, for the first time.

314–350. St. Marys River range lights, Michigan.—The act approved on March 3, 1903, appropriated $3,622.50 to obtain title to the sites upon which range lights were established along this river. The sites upon which the following-named stations had been erected were surveyed and platted preparatory to the purchase of the land: Harwood Point range, Bayfield Rock range, Neebish Island range (Hen and Chickens), Indian Point range, East Neebish range, Duck Island range, Churchville Point range, Payment range, Catholic Mission range, Farmers Ridges range, Partridge Point range, Topsail Island range, Sault range.

Negotiations for the purchase of these sites are in progress. Condemnation proceedings are being commenced in several cases. The site for the front light and keeper's dwelling of the Pilot Island range was purchased and the deed was duly recorded.

321–322. Head of St. Marys River range, Michigan.—A boathouse and some 63 feet of boat ways were built, and a side landing 24 feet long was placed on small log cribs.

327–328. Indian Point range, St. Marys River, Michigan.—The targets of this range were rebuilt.

351. Point Iroquois, Whitefish Bay, Lake Superior, Michigan.—The following recommendation, made in the Board's last annual report, is renewed:

> This light-station marks the entrance to St. Marys River proper, and is important to south-bound vessels coming from Lake Superior. The light-keeper's dwelling is not large enough to accommodate more than one family, and, as the station has been recently provided with a steam fog-signal, an assistant keeper is needed. It is proposed to erect a two-story dwelling, with a cellar, upon the light-house site. It is estimated that this will cost $5,000, and the Board recommends that an appropriation of this amount be made therefor.

353. Crisp Point, Lake Superior, Michigan.—The act approved on June 28, 1902, appropriated $18,000 for the establishment of this light

and fog-signal. The construction of the various buildings was practically completed on December 18, 1903, when work was suspended and the station closed for the winter. Work was begun in the latter part of May and finished on June 10, 1904, the station being as complete as the funds available for the work would allow. The buildings erected consist of a white conical brick tower, 52 feet from the base to the center of the lantern, a two-story red brick double dwelling, a red brick fog-signal house, in which a single fog-signal plant is installed, a white frame boathouse and barn, a brick oilhouse, and two outbuildings. The machinery for a second fog-signal plant is being set up. The fixed red fourth-order light was shown on May 5, 1904, for the first time.

354–355. Grand Marais range, Harbor of Refuge, Lake Superior, Michigan.—The following recommendation, made in the Board's two last annual reports, is renewed:

This station has two lights, one on the outer and the other on the inner end of the west pier, at the entrance to the Grand Marais Harbor of Refuge, on the southerly shore of the easterly part of Lake Superior, Michigan. It also has a fog-signal. The lights and the fog-signal are attended by but one keeper. It is necessary that he should be at his post most of the time, and particularly at night. There are no quarters provided for him, and he now lives near his rear light in a shanty built by the former keeper. A suitable keeper's dwelling should be erected here as soon as practicable. There is a strip of Government land near the light-station, in charge of the War Department. It is estimated that a proper structure can be built thereon for $5,000, and it is recommended that an appropriation of that amount be made therefor.

The pier upon which the lights of this range are exhibited has been extended lakeward 612 feet, and the front beacon is to be moved out to the end thereof and a metal elevated walk is to be built. The needed metal work was purchased and was delivered at the Detroit light-house depot. Repairs were made to the fog-bell machinery.

356. Big Sable, Lake Superior, Michigan.—A woodshed was built. The iron smokestacks of the fog-signal boilers were replaced by a brick chimney 40 feet high. A brick cistern for fog-signal water supply is being built. Various repairs were made.

364. Big Bay Point, Lake Superior, Michigan.—The outer cribs of the landing wharf were refilled with stone and redecked. The material for repairing the station walks was purchased and delivered at the station.

383. Princess Point, Portage River and Lake, Lake Superior, Michigan.—The barn was completed.

398–399. Lily Pond beacons, Portage River and Lake, Lake Superior, Michigan.—The two beacon lights, one on the north end and one on the south end of the easterly side of the mooring revetment, were completed. The lights were on September 1, 1904, shown from small white lamp houses about 12 feet above lake level.

409. Eagle River, Lake Superior, Michigan.—The following recommendation was made in the Board's last four annual reports:

This is supposed to be a coast light and guide to Eagle River. As a coast light it can not now be regarded as of any importance, being only a lens lantern and located back from the general line of the coast. It is of no use as a guide to the entrance to Eagle River, because the mouth of that river is now entirely blocked up with sand. An old dock which was once in use at this point is now rotten and has not had a pound of freight on it for years. There is no commerce in the locality, and no vessels of any draft, except the light-house tenders with supplies, go near the place. There is a rocky reef about

one-half mile offshore, extending for several miles along the coast, which makes it dangerous to approach. For several years past no repairs have been made to this dwelling on account of the probability that the light might be discontinued. As a consequence, it is in a far advanced state of decay. If the station is to be continued, all the woodwork of the roof, doors, windows, outhouses, board walks, and fences should be renewed.

The following statement and recommendation was made in the Board's annual reports for 1894, 1896, 1897, 1898, and 1899:

The moving of this light to Sand Hills, at a cost not to exceed $20,000, was authorized by the act approved February 15, 1893, but no appropriation therefor has yet been made. Recommendation is made that the amount named be appropriated.

The following recommendation was made in the Board's annual reports for 1900 and 1901:

It is now estimated that $25,000 will be required for this work, and it is recommended that an appropriation of that amount be made therefor.

The following recommendation, made in the Board's annual report for 1902 and 1903, is renewed:

Owing to the isolated position of the site, the distance to which materials will have to be carried, and the present high prices of all classes of building material, it is believed that a light-house and fog-signal suitable to the locality can not be constructed for less than $38,000. This includes the cost of the site. It had been hoped that the land could be purchased for a reasonable sum, but the present owners ask a price which the Board considers entirely too high. The engineer is still in correspondence with the owners, and it is hoped that a lower price will be named; but if the land can not be purchased by private sale it is possible that it can be secured by condemnation. Under the circumstances the Board estimates that the site and the erection of the structures will cost $38,000, and it recommends that an appropriation of this amount be made therefor.

410–411. Portage Lake Ship Canals east and west breakwater, Lake Superior, Michigan.—The two square pyramidal skeleton steel towers, 24 feet from the base to the center of the lantern, built by contract, were erected in October and November, 1903, one on the westerly end of the east breakwater and the other on the easterly end of the west breakwater, replacing the temporary frame tripods from which post-lantern lights were shown. Red-lens lantern lights were shown on November 21, 1903, from these permanent white towers 32 feet above lake level.

413. Portage Lake Ship Canals pierhead, Lake Superior, Michigan.—The following recommendation, made in the Board's last two annual reports, is renewed:

The light and fog-signal now on the end of this pier will have to be removed from their present position and established on the end of the breakwater, because of the improvements being made by the Government at the entrance to the canal. It is estimated that it will cost $55,000 to do this work, and the Board recommends that an appropriation of that amount be made for the removal of the light and fog-signal now at Portage Lake Ship Canals pierhead, and the reestablishment of them on the end of the breakwater when it shall become necessary.

418. Michigan Island, Lake Superior, Wisconsin.—The following recommendation, made in the Board's last two annual reports, is renewed:

This is a coast light, and is to guide through the passage between Magdalene, Stockton, and Michigan islands, part of the group of islands known as the Apostle Islands. It lies in the course of vessels bound from the eastward to

Chequamegon Bay, at the lower end of which the town of Ashland, Wis., is situated. This is a shipping point for ore and lumber, and the commerce passing from Michigan Island is already large and is constantly increasing. The usefulness of this station can be largely enhanced, especially in foggy weather and in snowstorms, by adding to the light a steam fog-signal. It is estimated that this can be done at a cost not exceeding $6,000, and the Board recommends that an appropriation of this amount be made therefor.

420. Chequamegon Point, Lake Superior, Wisconsin.—Three cribs 12 feet wide and 32 feet long, placed 100 feet between centers and rising 3 feet above water level, were built on the northwest side of the point to protect the site of the beacon from further erosion. The cribs were built of logs filled with stone and decked with 3-inch plank.

421. Raspberry Island (one of the Apostle Islands), Lake Superior, Wisconsin.—The duplicate steam fog-signal was completed in August, 1903. The plant consists of one right-hand and one left-hand boiler and engine, established in a brick building. The signal was, on September 1, 1903, ready for operation.

422. Devils Island (one of the Apostle Islands), Lake Superior, Wisconsin.—The old frame tower and the lantern from which the temporary light was exhibited were taken down and the material stored. Various repairs were made.

—. *Superior and St. Louis bays, Wisconsin and Minnesota.*—Of the 22 old post lights in these bays, 21 were carried away by the ice, but were reestablished on the opening of navigation. Of the 9 lights in St. Louis River, 8 were rebuilt.

437–438. Duluth range, Lake Superior, Minnesota.—The wooden walk in front of the keeper's dwelling was renewed in cement. A brick house was built over the west entrance to the gallery of the south pier. The following recommendation, made in the Board's last two annual reports, is renewed:

This station has two lights and a fog-signal on the ends of the two piers at the entrance to Duluth Harbor, which are cared for by the keeper and two assistants. A frame house, built in 1874, is occupied by the keeper and his family, and the two assistants rent quarters at their own expense. It is proposed to purchase a site and erect on it a double dwelling for the two assistant keepers and their families. It is estimated that this can be done for not exceeding $10,000, and the Board recommends that an appropriation of this amount be made therefor.

Three additional fixed red lights are to be established on the new piers at the entrance to this harbor, one on the outer end and one on the inner end of the north pier, and one on the inner end of the south pier, when Duluth furnishes the electrical connection for the lamp-posts on the pier, which the city proposes to light.

461. Grand Marais west breakwater beacon, Lake Superior, Minnesota.—The establishing of the Pintsch gas beacons at the entrance to this harbor, interrupted by winter, will be resumed when it is practicable to send a working party to the station.

462. Grand Marais, Lake Superior, Minnesota.—The frame tower from which this light is shown, and from which the fog-bell is suspended, was damaged, but was repaired prior to the close of navigation, when the fog-bell was put in operation. A wave break of 12-inch timbers was built as a protection against the sea. Various repairs were made.

—. *Rock of Ages, Lake Superior, Michigan.*—The following recommendation was made in the Board's annual reports for 1896, 1897, 1898, 1899, and 1903:

During the season of southerly and westerly winds many vessels bound to and from Duluth, by taking a course along the north shore of the lake and in lee of Isle Royale, are enabled to run when the lake is too rough for the more southerly course. A light and fog-signal on the dangerous rocks off the westerly end of Isle Royale would be a valuable aid to these vessels. It is therefore proposed to establish a light and fog-signal station on the Rock of Ages off the western end of Isle Royale. This, it is estimated, can be done for $50,000, and it is recommended that an appropriation of that amount be made therefor.

The following recommendation was made in the Board's last two annual reports:

It is now estimated that it will cost $125,000 to establish this light and fog-signal, and the Board recommends that an appropriation of this amount be made therefor.

This estimate and recommendation is in accordance with that made by the Secretary of the Treasury in his letter of January 4, 1900, to the chairman of the House Committee on Appropriations.

The Board now recommends, in place of making an appropriation for establishing this station, that an appropriation of $25,000 be made for making a survey and examination of the site and preparing detailed plans and estimates and beginning the work of construction.

—. *Rock Harbor, Menagerie Island, Lake Superior, Michigan.*—The following recommendation was made in the Board's last two annual reports:

On the east side of Menagerie Island, formerly called Isle Royal, near its northeast end, is a small, well-sheltered, landlocked harbor, with good anchorage. At its entrance the channel lies between projecting rocks that are only about 400 feet apart. The location of this harbor is such, if the entrance were properly marked with beacons and lights, that vessels finding themselves in this vicinity would take advantage of it in bad weather. The light which was established here in 1855 was discontinued in 1859. It was established again in 1874, and was again discontinued in 1879 because of the little commerce then seeking that harbor. It now appears that recently the development of mines and like causes have again turned commerce in this direction, and many vessel men ask the reestablishment of these lights in the interests of lake commerce and navigation. The Board is of the opinion that the placing of a small coast light of the third or fourth order in the vicinity of the site of the abandoned light, and the placing of a range on the west shore of Rock Harbor, which is on the east side of Menagerie Island, and a red light on the north side of the entrance, would be sufficient to guide vessels into this harbor. It is estimated that these lights can be established for $15,000, and the Board recommends that an appropriation of this amount be made therefor.

The amount asked for is not sufficient to do the proposed work. The following is a revised estimate of the cost of constructing the various structures recommended for the lighting of this harbor. It is based upon the present high prices of material and labor, the cost of transportation, and the inacessibility of the site. The material is figured upon as in place:

Site for range	$300
Tower for coast light	6,000
Keeper's double dwelling	8,000
Boathouse and landing	800
Barn	500
Structures for range lights	1,500

Beacon on north side of entrance—Middle Island	$500
Fourth-order lens	650
Three lens lanterns	375
Contingencies	2,375
Total	21,000

The Board therefore recommends that an appropriation of $21,000 be made for the establishment of this light-station.

REPAIRS.

Repairs, more or less extensive, were made at the following stations:

176. Belle Isle, Detroit River, Mich.
193. St. Clair Flats Canal lower, Lake St. Clair, Mich.
194. St. Clair Flats Canal upper, Lake St. Clair, Mich.
213–214. Fort Gratiot range, St. Clair River, Mich.
215. Fort Gratiot, Lake Huron, Mich.
218–221. Sand Beach, main, Lake Huron, Mich.
230. Saginaw River range, Lake Huron, Mich.
233. Thunder Bay Island, Lake Huron, Mich.
239. Forty-Mile Point, Lake Huron, Mich.
252. Detour, Lake Huron, Mich.
351. Point Iroquois, Lake Superior, Mich.
352. Whitefish Point, Lake Superior, Mich.
357. Grand Island, Lake Superior, Mich.
361. Marquette, Lake Superior, Mich.
366. Stannard Rock, Lake Superior, Mich.
368. Portage River, Lake Superior, Mich.
370–371. Portage range, Lake Superior, Mich.
372. Light No. 0, Portage River and Lake, Mich.
380. Light No. 8, Portage River and Lake, Mich.
391. Cole Creek beacon, Portage River and Lake, Mich.
394–395. Rouleau Point range, Portage River and Lake, Mich.
400. Mendota, Lake Superior, Mich.
401. Manitou, Lake Superior, Mich.
402. Gull Rock, Lake Superior, Mich.
403. Copper Harbor, Lake Superior, Mich.
404–405. Copper Harbor range, Lake Superior, Mich.
406. Eagle Harbor, Lake Superior, Mich.
407–408. Eagle Harbor range, Lake Superior, Mich.
409. Eagle River, Lake Superior, Mich.
412. Portage Lake ship canals, Lake Superior, Mich.
413. Portage Lake ship canals pierhead, Lake Superior, Mich.
414. Fourteen-Mile Point, Lake Superior, Mich.
415. Ontonagon, Lake Superior, Mich.
416. Ontonagon pierhead, Lake Superior, Mich.
418. Michigan Island, Lake Superior, Wis.
419. La Pointe, Lake Superior, Wis.
421. Raspberry Island, Lake Superior, Wis.
423. Sand Island, Lake Superior, Wis.
424–425. Superior pierhead range, Lake Superior, Wis.
459. Two Harbors, Lake Superior, Minn.
464. Passage Island, Lake Superior, Mich.

DAY OR UNLIGHTED BEACON.

There is but one unlighted beacon in this district, and this is situated on the southern extremity of the reef off Stannard Rock, Lake Superior, Michigan.

LIGHT-VESSELS.

190. Grossepoint light-vessel, No. 75, upper end of Twenty-Foot dredged channel, Lake St. Clair, Michigan.—This vessel, of about 160 gross tons, was built in 1902 of steel, and was first placed on her station in August, 1902. She was removed on December 12, 1903, and was replaced for the season of navigation on April 16, 1904.

216. Lake Huron light-vessel, No. 61, Lake Huron, Michigan.—This wooden light-vessel was built in 1893; is of about 107 tons gross burden, fitted with a steam fog-signal. She was thoroughly repaired during the winter of 1902–3. She was removed from her station on December 10, 1903, and replaced on May 3, 1904.

241. Poe Reef light-vessel, No. 62, entrance to south channel, Straits of Mackinac, Michigan.—This wooden light-vessel was built in 1893, and is of about 107 tons gross burden and similar in all respects to light-vessel No. 61. She was partially repaired in the spring of 1901. She was removed from her station on December 5, 1903, and was replaced on May 11, 1904.

—. *Martins Reef light-vessel, northwestern end of Lake Huron, Michigan.*—The following recommendation was made in the Board's annual reports for 1896, 1897, 1898, 1899, and 1903:

It is proposed to place a light on Martins Reef as an aid to the great and increasing traffic between the mouth of the St. Marys River and the Straits of Mackinac. Since the great development of steel works at Chicago, Milwaukee, and Joliet, and the discovery of new and cheap ores suitable for making steel on the northerly shore of Lake Superior, the commerce passing from the mouth of St. Marys River through the Straits of Mackinac into Lake Michigan has increased with rapidity. It is several times greater than it was five years ago. The vessels carrying ore from Duluth and Two Harbors to Lake Michigan ports are the largest in the lake-marine class. These vessels pass close to the dangerous Martins Reef; hence a light-vessel there is much needed. It is estimated that a proper light-vessel can be built and placed there for $15,000, and it is recommended that an appropriation of this amount be made therefor.

The following recommendation, made in the Board's last four annual reports, is renewed:

In the original estimate for this light-vessel a wooden vessel was contemplated. From information since received, and in view of the exposed and dangerous position she would occupy, it is now believed that it would be more economical to build this light-vessel of steel, with auxiliary steam power, as she could then not only place and maintain herself on her station, but she could also tow the Poe Reef light-vessel to and from her station, and thus effect a saving of about $150 a year. It is estimated that a suitable steam light-vessel for Martins Reef, with auxiliary steam power, can be built for $35,000. This Board therefore recommends that the proper measures may be taken to obtain an appropriation of this amount therefor.

FOG SIGNALS OPERATED BY STEAM OR HOT-AIR ENGINES.

215. Fort Gratiot, Mich.—This 8-inch steam whistle was in operation some 121 hours and consumed about 11 tons of coal.

216. Lake Huron light-vessel, No. 61, Michigan.—This 6-inch steam whistle was in operation some 168 hours and consumed about 19 tons of coal.

218. Sand Beach Harbor of Refuge, Michigan.—This 10-inch steam whistle was in operation some 161 hours and consumed about 16 tons of coal.

223. Port Austin Reef, Michigan.—This 10-inch steam whistle was in operation some 170 hours and consumed about 7 tons of coal.

224. Tawas, Mich.—This 10-inch steam whistle was in operation some 129 hours and consumed about 10 tons of coal.

233. Thunder Bay Island, Michigan.—This 10-inch steam whistle was in operation some 260 hours and consumed about 21 tons of coal.

238. Presque Isle, Michigan.—This 10-inch steam whistle was in operation some 336 hours and consumed about 12 tons of coal.

239. Forty-Mile Point, Michigan.—This 10-inch steam whistle was in operation some 236 hours and consumed about 6 tons of coal.

240. Spectacle Reef, Michigan.—This 10-inch steam whistle was in operation some 103 hours and consumed about 5 tons of coal.

241. Poe Reef light-vessel, No. 62, Michigan.—This 6-inch steam whistle was in operation some 370 hours and consumed about 31 tons of coal.

242. Cheboygan, Mich.—This 10-inch steam whistle was in operation some 84 hours and consumed about 8 tons of coal.

247. Round Island, Michigan.—This 10-inch steam whistle was in operation some 109 hours and consumed about 9 tons of coal.

252. Detour, Mich.—This 10-inch steam whistle was in operation some 137 hours and consumed about 12 tons of coal.

351. Point Iroquois, Michigan.—This 10-inch steam whistle was in operation some 308 hours and consumed about 22 tons of coal.

352. Whitefish Point, Michigan.—This 10-inch steam whistle was in operation some 323 hours and consumed about 37 tons of coal.

353. Crisp Point, Michigan.—This 10-inch steam whistle was in operation about 227 hours and consumed about 7 tons of coal.

356. Big Sable, Michigan.—This 10-inch steam whistle was in operation some 166 hours and consumed about 13 tons of coal.

361. Marquette, Mich.—This 10-inch steam whistle was in operation some 189 hours and consumed about 20 tons of coal.

364. Big Bay Point, Michigan.—This 10-inch steam whistle was in operation some 212 hours and consumed about 13 tons of coal.

365. Huron Island, Michigan.—This 10-inch steam whistle was in operation some 101 hours and consumed about 9 tons of coal.

366. Stannard Rock, Michigan.—This 10-inch steam whistle was in operation some 281 hours and consumed about 16 tons of coal.

401. Manitou, Mich.—This 10-inch steam whistle was in operation some 336 hours and consumed about 27 tons of coal.

406. Eagle Harbor, Michigan.—This 10-inch steam whistle was in operation some 344 hours and consumed about 29 tons of coal.

413. Portage Lake Ship Canals pierhead, Michigan.—This 10-inch steam whistle was in operation some 390 hours and consumed about 23 tons of coal.

414. Fourteen-Mile Point, Michigan.—This 10-inch steam whistle was in operation some 226 hours and consumed about 13 tons of coal.

417. Outer Island, Wisconsin.—This 10-inch steam whistle was in operation some 369 hours and consumed about 18 tons of coal.

419. La Pointe, Wisconsin.—This 10-inch steam whistle was in operation some 369 hours and consumed about 25 tons of coal.

421. Raspberry Island, Wisconsin.—This 10-inch steam whistle was in operation some 49 hours and consumed about 5 tons of coal.

422. Devils Island, Wisconsin.—This 10-inch steam whistle was in operation some 278 hours and consumed about 17 tons of coal.

424. Superior pierhead (front), Wisconsin.—This 6-inch steam whistle was in operation some 466 hours and consumed about 27 tons of coal.

437. Duluth (front), Minnesota.—This 10-inch steam whistle was in operation some 578 hours and consumed about 34 tons of coal.

459. Two Harbors, Minnesota.—This 10-inch steam whistle was in operation some 506 hours and consumed about 20 tons of coal.

464. Passage Island, Michigan.—This 10-inch steam whistle was in operation some 653 hours and consumed about 30 tons of coal.

BUOYAGE.

The buoys marking the channels and dangers to navigation in the Detroit River, Lake St. Clair, St. Clair River, Lake Huron, and adjacent waters, and in the Straits of Mackinac as far as Point St. Ignace, and off Point Abbaye, Lake Superior, Michigan, are cared for by the light-house tender *Marigold*. The buoys marking the channel entrance into the Saginaw River are cared for by contract. The buoys marking the channels in the St. Marys River, Michigan, are cared for by contract. The buoys in Portage Lake and River, Michigan, are cared for by contract. The buoyage of the channels in Superior and St. Louis bays, Wisconsin and Minnesota, are cared for by contract.

LIGHT-HOUSE TENDERS.

Marigold.—This iron screw steamer, which was built in 1890, has a displacement of 587.43 tons. She was employed in caring for buoys, inspecting light-houses, and delivering supplies and fuel to light-stations and fog-signals. In so doing she steamed some 15,853 miles and consumed about 1,070 tons of bituminous coal. She delivered supplies to 252 lights and 33 fog-signals, and kept 37 gas buoys charged with gas. Various repairs were made.

Aspen.—The act approved on March 3, 1903, appropriated $75,000 for building a steam tender for use in St. Marys River, Michigan, and adjacent waters. This vessel is to be a single-screw steel tender having a displacement of 377 tons; length between perpendiculars, 117 feet 8 inches; beam molded 25 feet; depth of hold, 11 feet 10 inches. She has one compound engine, with cylinders 16 inches and 31 inches in diameter and a piston stroke of 24 inches, which is capable of developing 400 horsepower. Steam is furnished by one cylindrical boiler of Scotch type, 11 feet 9 inches diameter and 12 feet long, designed for a working pressure of 120 pounds. She will be rigged with a pole mast and a derrick boom for handling buoys. She has a steam anchor windlass and capstan, steam steerer, steam hoisting engine, and all modern sanitary arrangements. Great care has been taken in ventilating the entire ship. The drawings for this vessel are finished, the specifications are now being printed, and bids for its construction will be soon invited.

Tender for Lake Superior, to be used by the inspector of the Eleventh light-house district.—The following is a copy of a letter dated December 9, 1903, from the Secretary of Commerce and Labor to the Secretary of the Treasury, which was by him sent to the Speaker of the House of Representatives:

This Department has the honor to state, at the instance of the Light-House Board, that the interests of commerce require that a large steam tender be provided to do the buoy work and light-house supply work needed on Lake Superior.

In the annual estimates of the Light-House Board for the fiscal year ending June 30, 1905, two appropriations are asked, one of $13,000 for a small steam tender for use in attending the lights and buoys in Superior and St. Louis bays, entrance to Duluth Harbor, Minnesota, and another of $15,000 for a small steam tender for use in attending the lights and buoys in Portage Lake and River, Lake Superior, Michigan.

It is now believed that one large steam tender would do the service proposed

for those two small tenders, and in addition it would do much other service, which is greatly needed.

The following extracts from a letter of the inspector of the Eleventh light-house district, dated Detroit, Mich., September 2, 1903, will show something of the need of a new light-house tender for the lights and buoys of Lake Superior:

"The Board's attention is respectfully invited to the needs of the district, which are increasing all the time. More light-houses and more fog-signals have been established of late years and more are to be. There is a constant cry for and need of more gas buoys, and yet no more gas buoys can be taken care of with present facilities. As more fog-signals and lights have been established, the supplies (coal and others) have also increased.

"There are but four stations which are accessible enough to cities, so, except those four, nothing is supplied by contract as in some other districts.

"It is with the greatest difficulty that the tender *Marigold* can now provide and do her other necessary work, and if she is not kept constantly on the go, without any delay, nor diverted for any other special duty, something has to go by the board. * * * Before long there must be another tender, of *Marigold* size, for Lake Superior alone, and one that can get to work early in the season and which should winter in that lake.

Then gas buoys could be placed in Lake Superior, if we are able to get means of obtaining gas there, but now, even if they could be cared for, they are of little use, as the *Marigold* could not place them till her first trip, in June, and they must be taken up on her last trip, in October. * * * I lay before the Board the following data of work for this season, which speaks for itself:

"Supplies delivered by the *Marigold* for the season, viz, 559 tons egg coal, in bags, to 28 fog-signal stations; 111 tons of chestnut coal, in bags, for watch-room purposes, to 45 light-stations; 23 cords hard wood to 9 fog-signal stations; 4 cords hard wood to 2 light-vessels; 4,577 cans mineral oil, in addition to paints, oils, and other supplies to 250 light-houses, light-vessels, and post lights.

"There are 35 gas buoys and 4 gas beacons, 39 in all, which are pumped three times a year—81,885 cubic feet of gas pumped into buoys and beacons.

"The tender sets in the spring and takes up in the fall 2 float lights, 44 spar buoys, 11 iron buoys, and 32 gas buoys. She also brings to depot 200 30-foot cedar logs for buoys, takes 100 finished buoys and 60 stone sinkers to various contractors, besides many other stores, boats, etc.

"Mileage each month: March, 293 miles; April, 1,664; May, 1,318; June, 2,215; July, 2,416; August, 2,111; September, 1,318; October, 2,144; November, 2,152; December, 295. Total for season, 15,026 miles.

"There are, to date, 247 light-houses and post lights, 35 gas buoys, and 4 gas beacons in this district. If comparison is made it will be seen that there are about 120 more lighted aids in this district than in the Ninth and Tenth districts added."

This condition, which obtained in September last, has been accentuated and emphasized by the increased need of still other aids to navigation, which has been set up of late. The commerce of Lake Superior is now so heavy that its needs can not be supplied unless the Light-House Board is furnished with a new steam tender suitable for the purpose. It is estimated that such a tender can be built and equipped for duty at a cost of $130,000, and the Light-House Board recommends that this amount be appropriated therefor.

This Department, therefore, has the honor to recommend that in place of the before-named items the proper measures be taken to have the following item included in the coming sundry civil appropriation bill, in connection with other estimates for the Eleventh light-house district:

"Tender for use in Lake Superior, Eleventh light-house district: For the construction of a steam tender for use in and near Lake Superior, Michigan; and the Light-House Board is authorized to employ, temporarily, at Washington, three draftsmen, to be paid at current rates, to prepare plans for this steam tender, for which appropriation may be made, such draftsmen to be paid from the appropriation for building said vessel, such employment to cease and determine on or before the date when, the plans for such vessel being finished, proposals for building this vessel are invited by advertisement—$130,000."

The act approved on April 28, 1904, appropriated $50,000 for building this tender, and authorized a contract therefor at a cost not to exceed $140,000. Plans and specifications of this tender are now being made. The Board recommends that an appropriation of $90,000 be made with which to complete this vessel.

TWELFTH DISTRICT.

This district extends from the boundary between California and Mexico to the boundary between California and Oregon. It embraces all aids to navigation on the seacoast, bays, rivers, and other tidal waters of California.

Since January 1, 1904, it has included the light-house service of the Territory of Hawaii, under the proclamation of the President of the United States dated December 28, 1903, by virtue of the act of Congress of April 30, 1900.

Inspector.—Commander John B. Milton, U. S. Navy, to February 20, 1904; since then, Commander W. P. Day, U. S. Navy.

Engineer.—Lieut. Col. Thomas H. Handbury, Corps of Engineers, U. S. Army.

There are in this district—

Light-houses and beacon lights, including 4 post lights and 16 light-houses in Hawaii	76
Light-vessel in position	1
Day or unlighted beacons	48
Fog-signals operated by steam or oil engines	17
Fog-signals operated by clockwork	11
Fog-signals operated by hand	2
Gas-lighted buoys	3
Whistling buoys in position	18
Bell buoys in position	10
Other buoys in position	76
Steamer *Madroño*, buoy tender and for supply and inspection	1
Steam launch of *Madroño*	1

NOTE.—The number preceding the name of a light-station in the Twelfth district is that by which it is designated in the list of lights and fog-signals on the Pacific coast of the United States, corrected to May 1, 1904.

LIGHT-STATIONS.

1. Point Loma, entrance to San Diego Bay, California.—About 100 feet of pipe was laid to maintain the pipe line connecting the new station with the old one on top of the hill. Various repairs were made.

14. Santa Barbara, Pacific Ocean, near Santa Barbara landing, California.—The improvements were completed. The roadway leading from the country road to the light-house was graded, and oiled with crude petroleum. This road was extended in an oval surrounding the light-house lot. The grounds around the house were filled in and graded. Much fencing was built. Cement walks were laid. The spouting was so arranged as to save all available water. A force pump was put in. Various repairs were made.

The following recommendation, made in the Board's last six annual reports, is renewed:

The light-house at this station was built in 1856. It is of brick, with the outer walls stuccoed. The light is shown from an old-fashioned lantern, with triangular-shaped glass, built on top of the dwelling. The structure is unsightly and uncomfortable, and in winter the walls are damp. To put this building in good repair would cost as much, if not more, than to build a new modern structure. This can be done, it is estimated, for not exceeding $7,500, and it is recommended that an appropriation of that amount be made therefor.

15. Point Conception, entrance to Santa Barbara Channel, California.—The act approved on April 28, 1904, appropriated $9,000 for a double dwelling for the light-keepers and $15,000 for a large oil-house. These improvements will be made during the coming year. Various repairs were made.

18. Piedras Blancas, seacoast of California.—The act approved on March 3, 1903, appropriated $15,000 for the establishment here of a fog-signal and keeper's dwelling. The plans and specifications for this work have been prepared. Various repairs were made.

20. Point Pinos, entrance to Monterey Bay, California.—About 7,723 feet of new fencing was built on the line of the reservation inclosing the original land and the portion purchased some years ago, except that on the ocean and bay frontages the fence is placed on the highland at a safe distance back from the high-water line.

22. Año Nuevo Island, seacoast of California.—A smokestack, with umbrella, hood, etc., was put up to replace the old one, which had rusted out. The following quotation is taken from the Board's annual reports for 1902 and 1903, and the recommendation made therein is renewed:

This station is principally important on account of its fog-signal, which is a 12-inch steam whistle, giving blasts of 10 seconds followed by silent intervals of 55 seconds. The light is but a lens lantern. To keep the station in good condition and to have the fog-signal always in operation when necessary, two keepers are required. The dwelling for the two keepers is barely sufficient for one, as both are men of family and are worthy of something better in the way of living accommodations. The dwelling is a one-story frame structure, 36 feet by 28 feet in plan, with a small kitchen attached and no cellar. It has been partitioned off, so that the two keepers with their families live in it, but at great inconvenience and discomfort. The Board is of the opinion that it is necessary to encourage capable men to take service with the Light-House Establishment; that to do so it is necessary that they should be provided at least with reasonable accommodations. It is estimated that an additional keeper's dwelling can be built here for $6,000, a much larger sum than would be required were it not that the island is in the open sea, outside of all freighting accommodations, and that the material for the dwelling would have to be transported to the site by special arrangements. The Board recommends that an appropriation of this amount be made therefor.

23. Pigeon Point, extreme end of Pigeon Point, seacoast of California.—The windmill used to pump water from the spring at this station was destroyed during a violent storm. A new aermoter mill, 10 feet in diameter, was purchased and set up on the steel tower to replace it. A new engine governor and a quantity of pipe fittings were furnished for the signal.

The following recommendation, made in the Board's annual reports for ten years up to and including that for 1903, is again made:

There are standing outside of the light-house site, but close to the fence inclosing the light-house structures, a fisherman's shanty and a hay barn. If a fire should break out in either of these buildings it would endanger the struc-

tures of the light-station. It is proposed, in order to obviate this danger, that an additional strip of land to the eastward of the station, say 150 feet wide, be purchased and added to the light-house reservation. This, it is estimated, can be done for not exceeding $5,000, and it is recommended that an appropriation of this amount be made therefor.

25. Farallon Island, off entrance to San Francisco Bay, California.—The ironwork of the tower was renewed, and the copper roof was repaired. The attached oil room was reroofed. The two fog-signal boilers were erected, the signal machinery was overhauled, the piping and fittings were rearranged and renewed, and the fog-signal building was enlarged. A brick chimney 35 feet high was built to take the place of the iron smokestack, and was connected to both of the boilers by a branched pipe. Various repairs were made.

27. Bonita Point, entrance to San Francisco Bay, California.—The fog-signal machinery, including the sirens, were repaired and moved to and set up in the brick building erected last year. A steam pump was installed, and the furnaces of the boilers were fitted up for using both coal and crude petroleum as fuel. About 1,500 feet of pipe was laid to conduct the fuel oil from the large tank on the hill above the landing to another tank situated near the signal. It was found that during cold weather the oil became so chilled that it would not readily flow through the pipe line. This trouble was remedied by placing a coil of small pipe in the tanks at the point of outlet and passing live steam through it from the boilers. A concrete retaining wall was built. The rain water was conveyed into the cisterns. Various repairs were made. As this oil-burning plant has been from time to time improved and changed to adapt it especially to the present conditions on this coast, results can not now be definitely stated, but enough has been done to show that this system will probably succeed and that it is much cheaper than coal. The cost of delivery here is somewhat greater than at Lime Point, as the oil is delivered in cans and can not as yet be pumped from a barge into the storage tank, as at Lime Point.

The following recommendation was made in the Board's last two annual reports:

The dwelling occupied by the assistant keepers, built in 1856, an old stuccoed brick structure of one and a half stories, does not afford adequate accommodations for the keepers and their families. Plans and estimates for a new double dwelling, to cost $11,905, have been approved. The Board recommends that an appropriation of this amount be made therefor.

In consequence of the increase in the price of labor and materials in this vicinity, the Board recommends that the amount of this estimate be increased to $15,000.

28. Mile Rocks, southern side of channel, entrance to San Francisco Bay, California.—Plans and specifications were prepared and bids were asked. Those for the substructure were opened on May 19, and those for the superstructure on June 8, 1904, and the contracts were made for both.

29. Fort Point, Point Winfield Scott, California.—A board walk was built from the roadway at the base of the brick fort to the top of the hill on which the keepers' cottages are situated. The act approved June 28, 1902, appropriated $7,000 for the establishment of a compressed-air fog signal on top of the old brick fort at this station. The concrete building is completed and the oil engines, air tanks, piping,

cooling appliances, etc., are installed. The Crosby automatic apparatus and the Daboll trumpets will be installed soon and the signal will be put in operation. The fog-signal will be a second-class Daboll trumpet, operated by compressed air. The engines are 5-horsepower oil engines, with air compressors on the same bedplate, capable of compressing 28 cubic feet of free air per minute and maintaining a pressure of 75 pounds per square inch. From these compressors the air is conducted to the first air receiver, made of an ordinary 100-gallon kitchen boiler, where the maximum pressure is maintained, and thence through a reducing valve to a smaller receiver under a uniform pressure of about 20 pounds to the square inch. The apparatus is operated and the trumpet blown directly from the smaller receiver. The blasts are governed by a Crosby automatic governor. The water for cooling the engine cylinders is stored in a 5,000-gallon tank, from whence it passes around the cylinders; thence it is pumped through a coil of pipes situated in an exposed position on the ramparts of the fort, cooled, and returned to the tank.

—. *Quarry Point, Angel Island, San Francisco Bay, California.*—The following statement, made in the Board's last twelve annual reports, is renewed:

Various petitions have been received from those representing marine interests asking that a fog-signal be established at this point. The passage between the eastern side of Angel Island and Southampton Shoal is quite narrow. The strong tides setting in and out through the Golden Gate have full force on a vessel bound up or down the bay, and in the case of ships being towed, as so many are, past this point, the set of the current is enough to make it hazardous, there being danger either of running aground on Southampton Shoal or Angel Island. An enormous quantity of shipping annually passes this point bound to or from the great grain wharves at Port Costa, the Sacramento and San Joaquin rivers, and Mare Island Strait. Hundreds of the largest sailing ships are towed from San Francisco to Port Costa, where they load with grain and are then towed down and out to sea. In this way there is more shipping passing through these waters than anywhere else in the district, except through the Golden Gate. There have been a number of casualties in the vicinity of this point.

Among many were the following:

The ferry steamer *Contra Costa*, plying between San Francisco and San Quentin with passengers, ran ashore near California City.

The ship *E. B. Sutton*, while being towed down from Port Costa, ran ashore near Quarry Point, Angel Island.

The ship *Eleanor Margaret*, bound to Port Costa, ran ashore on Bluff Point, Raccoon Straits.

The ship *Maulsden*, while being towed to Port Costa, ran ashore on Southampton Shoal.

Mariners have asked that Quarry Point be selected for the fog-signal station, because to make a start upriver in a fog it is necessary to make Angel Island to get a departure. After careful examination the Board reached the conclusion that a fog-signal at this locality would be a decided aid to mariners. In view of the great economy of establishing and maintaining a large fog bell here instead of a steam fog-signal, it decided in favor of the former. It is estimated that it will cost $6,000 to establish this fog bell, and it is recommended that an appropriation of this amount be made therefor.

Much complaint has been made by mariners that the bell fog signals used at the light and fog-signal stations in this vicinity are not sufficiently far-reaching. The Board is now of opinion that the signal to be used at Quarry Point should be of a more efficient character than a bell, particularly as all the commerce bound to Vallejo, Mare Island, and the Sacramento and San Joaquin rivers must pass close to a bold and rocky promontory. It is believed that it should be a first-class compressed-air siren. Quarry Point being part of the military reservation at Fort McDowell, on Angel Island, no expense for its site would be incurred. It is estimated that such a signal, with quarters for the keepers, could be built for $12,000.

The Board now recommends that it be authorized to expend so much of this amount as may be needed from the $63,000 appropriated for the construction of a light and fog-signal station at Point Dume, California, by the act of March 3, 1901, for the establishment of this signal, with quarters for the keepers.

30. Lime Point, San Francisco Bay, California.—Repairs were made to the trail leading to the station by widening it and clearing it of landslides and placing along it 400 feet of guard rail. Improvements were made to the oil-burning plant under one of the boilers. A second large wooden tank, holding about 7,800 gallons, was erected for the fuel oil, and a pipe line laid so that the oil may be pumped direct from a barge into the tank. The experiments in the use of crude fuel oil now being made here are giving encouraging results. This fog-signal, which has an excessively long blast, uses much steam and burns about 250 pounds of coal an hour. With fires banked the consumption is 15 pounds an hour. Taking coal at the average cost of $9.50 per ton, the cost for each twenty-four hours while the fog whistle is in operation is $25.44, and with fires banked it is $1.48 an hour. When oil is used the consumption while the fog-signal is blowing averages approximately 16 gallons each hour. When the boilers are kept in the condition of banked fires the consumption is at the rate of 1.25 gallons per hour. With oil at 75 cents a barrel of 42 gallons the cost for each twenty-four hours while the fog whistle is in operation will be $6.91. With banked fires it will be 54 cents. While the fog whistle is blowing the saving by the use of oil amounts to 72 per cent; with the fire banked the saving is about 63 per cent on the coal prices.

35. Yerba Buena, San Francisco Bay, California.—A brick chimney 35 feet high was built to take the place of the iron smokestacks of the fog-signal boilers, and both boilers were connected with it by an iron smoke pipe.

36. Oakland, entrance to San Antonio Creek, Oakland Harbor, California.—The contractor for building the new light-house completed his work in July, 1903. On July 11 the light was exhibited from the new structure. A No. 3 fog-bell striking apparatus was installed to operate the new 3,000-pound bell. The light-house is a wooden frame structure supported on eleven cylinders, each inclosing three piles and filled with concrete, and on the cylinders rests a framework of steel I beams filled in with concrete arches. The house has five rooms, one of which contains the bell-striking apparatus. Various repairs were made.

40. Southampton Shoal, San Francisco Bay, California.—The act approved on March 3, 1903, appropriated $30,000 for establishing a light and fog-signal to mark the south end of the shoal. Plans and specifications were prepared.

—. *Red Rock, upper part of San Francisco Bay, California.*—This rock is an island about 169 feet high, and contains about 7½ acres. It stands near the eastern shore of the bay, 9½ miles above Market street, San Francisco, and is passed close to by vessels bound for Port Costa, Benicia, Mare Island, and the rivers emptying into Suisun Bay. It is believed that with the establishment of a light at Southampton Shoal, Red Rock would be a better place than Quarry Point for a light and fog-signal. With this station vessels bound up

the bay could make Southampton Shoal, giving Quarry Point, Angel Island, a wide berth, and from thence shape their course to Red Rock, on either side of which they could pass. This rock or island, formerly known as Molate Island, is a military reservation, but does not enter into the adopted project for the defenses of San Francisco, and hence no difficulty is expected in obtaining authority to occupy it for light-house purposes. It is estimated that the cost of a light and fog-signal station at Red Rock will be $30,000, and the Board recommends that an appropriation for that amount be made therefor.

41. East Brother Island, entrance to San Pablo Bay, California.—Among other things some 300 feet of stone wall, averaging 6 feet high by 2½ feet thick, was built as a retaining wall on the exposed portion of the island and filled in behind with stone. A wharf was built extending out from the east side of the signal building. A boat house was built. The bell formerly used at Oakland was installed to replace a small one used as an auxiliary to the steam fog-signal. A 20,000-gallon water tank was built on a masonry foundation.

42. Mare Island, entrance to Karquines Strait, San Pablo Bay, California.—A new fence was built around the reservation and a horsepower winch was erected at the head of the tramway to raise supplies from the wharf. Various repairs were made.

44, 45, and 46. Napa Creek beacons, California.—Three single-pile beacons with iron arms carrying red post lantern lights were erected to mark the channel in the waters extending from Mare Island to Napa Creek. The lights were exhibited on February 11, 1904.

—. *Karquines Strait, between San Pablo Bay and Suisun Bay, California.*—The following statement, made in the Board's last three annual reports, is renewed:

> The immense commerce passing between San Francisco Bay and the Sacramento River region passes through Karquines Strait, both going and coming, and it has become evident that it is necessary, in the interests of commerce and navigation, to establish a light and fog-signal on a point opposite that now occupied by the Selby Smelting Works. It is estimated that this can be done for a sum not exceeding $50,000.

The Board now asks that it be authorized to expend so much of this amount as may be needed from the $63,000 appropriated by the act of March 3, 1901, for the construction of a light and fog-signal station at Point Dume, California, for the establishment of this light and fog-signal.

57. Cape Mendicino, seacoast of California.—The land has again slipped, causing more settlement of the foundations of the dwelling, oil house, etc., and the conditions are such as to call for some immediate action to prevent further and more serious damage. The structure occupied by the assistant keeper is unsafe for occupation by himself and his family. During a recent windstorm the building was so shaken that its occupants were obliged to remove to the tower for safety.

The following recommendation, made in the Board's last nine annual reports, is renewed, and the immediate need for it can not be too strongly urged:

> The temporary structure now occupied by one of the keepers is almost uninhabitable on account of its bad and insanitary condition. It is also unsafe, as its foundations are so poor that it has settled several times, and although each time it has been raised and temporarily repaired it has subsequently settled

again. As it was originally built for an oil house and not a dwelling, no permanent improvement can be attempted. It is estimated that a proper structure can be erected for $5,500, and it is recommended that an appropriation of that amount be made therefor.

59. Humboldt, Table Bluff, entrance to Humboldt Bay, California.—Fog-signal boilers were installed and a brick chimney was built. As the water supply was destroyed by a landslide carrying away and wrecking the windmill and filling up the spring, a windmill and pump were set up and the spring was dug out and boarded up. A 12-foot mill was set on a 30-foot steel frame tower.

—. *Humboldt Bay, California*, made in the Board's last four annual reports, is renewed:

There are three lights maintained on the jetties to guide vessels in over the bar. These, however, are ineffective in thick or foggy weather by day or night. It is evident that a fog-signal is much needed here. It is estimated that a proper fog-signal can be established on either the north or south jetty at a cost not to exceed $15,000. The Board therefore recommends that an appropriation of this amount be made therefor.

62. North Jetty beacon, Humboldt Bay, California.—The stability of this beacon light, which is placed on the north jetty, was endangered by the settlement of its foundation, owing to the erosion of the sand beneath it. It was moved inward about 60 feet.

67. Crescent City, seacoast of California.—A 5,000-gallon water tank was built on a masonry foundation.

68. St. George Reef, on northwest Seal Rock off Crescent City, seacoast of California.—A gasoline launch 22 feet in length, propelled by a 3½-horsepower engine, is supplied this station for use in communicating with Crescent City, 10 miles distant.

REPAIRS.

Repairs, more or less extensive, were made at the following-named light-stations:

3. La Playa, Cal.
5. Beacon No. 3, Cal.
9. Point Fermin, Cal.
13. Point Hueneme, Cal.
16. Point Arguello, Cal.
17. San Luis Obispo, Cal.
19. Point Sur, Cal.
24. Point Montara, Cal.
32. Angel Island, Cal.
33. Alcatraz Fog-Signal, Cal.
34. Alcatraz, Cal.
41. East Brother Island, Cal.
48. Roe Island, Cal.
55. Point Reyes, Cal.
57. Cape Mendocino, Cal.
66. Trinidad Head, Cal.

DAY OR UNLIGHTED BEACONS.

A three-pile beacon crossed with slats, painted red, was established in Mare Island Strait, on the northeasterly side of the channel in 16 feet of water.

58. Blunts Reef light-vessel, No. 83, off Cape Mendocino, seacoast of California.—The act approved on March 3, 1903, appropriated $90,000 for constructing, equipping, and outfitting, complete for service, a first-class steam light-vessel, with steam fog-signal, to be situated off this cape. This vessel is a first-class steel steam light-vessel of 621 tons displacement, length between perpendiculars 112 feet 11 inches, breadth molded 28 feet 6 inches, depth of hold 15 feet 4 inches. The machinery consists of one vertical inverted, direct-acting, open-front, surface-condensing, fore-and-aft compound

engine, with cylinders 16 inches by 31 inches and a piston stroke of 24 inches. Steam is furnished by two boilers of the gunboat type 9 feet 3 inches mean diameter by 16 feet 4½ inches long, with a corrugated furnace in each boiler. The vessel has three decks, main and spar decks being continuous, the lower deck extending from stem to coal-bunker bulkhead and from sternpost to engine-room bulkhead. She is equipped with two lantern masts and trysail masts and provided with full set of sails. There are staterooms provided in different parts of the vessel for 12 men and 3 officers, with suitable lockers, baths, etc. The ventilating and sanitary conditions are of the best; the living quarters are roomy and comfortable. She is now being built by contract, under which she is to be delivered by December 17, 1904. She will be sent to the Pacific coast as soon as practicable after she is finished.

FOG-SIGNALS OPERATED BY STEAM OR OIL ENGINES.

15. Point Conception, California.—This 12-inch steam whistle, in duplicate, was in operation some 183 hours, and consumed about 25 cords of wood.

16. Point Arguello, California.—This 12-inch whistle, in duplicate, worked by a 13-horsepower oil engine and compressed air, was in operation some 798 hours, and consumed about 1,644 gallons of mineral oil.

17. San Luis Obispo, California.—This 10-inch steam whistle, in duplicate, was in operation some 1,288 hours, and consumed about 89 tons of coal.

19. Point Sur, California.—This 12-inch steam whistle, in duplicate, was in operation some 993 hours, and consumed about 26 tons of coal and some 68 cords of wood.

22. Año Nuevo Island, California.—This 12-inch steam whistle, in duplicate, was in operation some 994 hours, and consumed about 68 tons of coal.

23. Pigeon Point, California.—This signal, consisting of one 10-inch and one 12-inch steam whistle, was in operation some 892 hours, and consumed about 82 cords of wood.

24. Point Montara, California.—This 12-inch steam whistle, in duplicate, was in operation some 939 hours, and consumed some 13 tons of coal and about 101 cords of wood.

25. Farallon, California.—This first-class steam siren, in duplicate, was in operation some 844 hours, and consumed about 62 tons of coal.

26. San Francisco light-vessel, No. 70, California.—This 12-inch steam chime whistle, in duplicate, was in operation some 795 hours, and consumed about 61 tons of coal.

27. Bonita Point, California.—This first-class steam siren, in duplicate, was in operation some 985 hours, and consumed about 66 tons of coal and about 6,408 gallons of crude oil.

30. Lime Point, California.—This 12-inch steam whistle, in duplicate, was in operation some 966 hours, and consumed about 37 tons of coal and about 19,066 gallons of crude oil.

35. Yerba Buena, California.—This 10-inch steam whistle, in duplicate, was in operation some 172 hours, and consumed about 15 tons of coal.

41. East Brother Island, California.—This 12-inch steam whistle was in operation some 56 hours, and consumed about 39 tons of coal.

55. Point Reyes, California.—This 12-inch steam whistle, in duplicate, was in operation some 1,362 hours, and consumed about 121 tons of coal.

56. Point Arena, California.—This signal, consisting of one 10-inch and one 12-inch steam whistle, was in operation some 1,190 hours, and consumed about 84 cords of wood.

59. Humboldt, California.—This signal, consisting of one 10-inch and one 12-inch steam whistle, was in operation some 584 hours, and consumed about 58 cords of wood.

68. St. George Reef, California.—This 12-inch steam whistle, in duplicate, was in operation some 569 hours, and consumed about 51 tons of coal.

BUOYAGE.

The buoyage of this district continues in excellent condition.

San Luis Obispo bell buoy, disabled in August, 1903, was replaced in September, 1903.

Blunts Reef whistling buoy, off Cape Mendocino, reported as not sounding in August, was replaced in December, 1903. As it was again reported as not sounding in May, it was replaced on June 16, 1904.

Gammon Shoal buoy, San Diego Bay, was shifted on October 7, 1903, some 200 feet to conform to the progress of the work on the bar.

San Pedro Bay bell buoy went adrift in April and was replaced in October, 1903.

Mare Island Strait buoy, No. 1, a second-class spar, was established in December, 1903, in 16 feet of water, about 400 feet from South Vallejo beacon.

Outer End North Jetty buoy, No. 1, Humboldt Bar, went adrift in December, 1903, and was replaced in January, 1904, in 21 feet of water.

San Pedro Entrance buoy, No. 1, San Pedro Harbor, which went adrift in February, was replaced in April, 1904.

Outer End South Jetty buoy, No. 2, Humboldt Bar, which went adrift in February, was replaced in June, 1904.

Point Pinos whistling buoy, which went adrift in March, was replaced in March, 1904.

San Pedro Harbor buoy, No. 2, was temporarily discontinued on April 16, 1904, owing to the work of dredging the harbor.

Mile Rock bell buoy, San Francisco entrance, disabled on December 2, was replaced on December 23, 1903.

Four and Three-Quarter Fathom buoy, San Francisco Bay, which was dragged about 600 feet out of position, was replaced on December 30, 1903.

Rodgers Break, a first-class nun buoy, off Point Gorda, was established on November 27, 1903, in 153 feet of water, about one-fourth mile SW. ¼ W. of Rodgers Break.

Mouse Rock bell buoy, Estero Bay, reported disabled on January 12, 1904, will be replaced as soon as practicable.

West End Middle Ground buoy, Humboldt Bay, which went adrift in March, was replaced on April 27, 1904.

Piedras Blancas whistling buoy, which went adrift on May 2, was replaced on May 4, 1904.

Pillar Point Reef buoy, No. 1, Halfmoon Bay, which went adrift on May 4, was replaced on May 10, 1904.

LIGHT-HOUSE DEPOT.

Yerba Buena, California.—A traveling crane, capable of lifting 3 tons and a 1-ton chain hoist were installed in the blacksmith shop for use in handling heavy work in connection with repairs to buoys, etc. The flooring of the storehouses was repaired and the underpinning and sills were renewed. The débris which had washed down from the hillside and lodged against the back of the houses was removed, the ground was graded off, and a pitch-paved gutter put down around the buildings to carry away the rain water.

The act approved on March 3, 1903, appropriated $8,000 for the erection of an oil house at this depot. Plans and specifications were prepared for the work and contract therefor was made. The work of construction will be commenced soon.

TENDERS.

Madroño.—This iron screw steamer, built in 1885, is of about 412 tons gross burden. She changed, placed, or replaced 115 buoys; landed some 782 tons of coal at 28 stations; delivered supplies at 42 stations, and visited 159 stations for inspection. In doing this she steamed 9,243 miles, upon a consumption of some 1,017 tons of bituminous coal. The crew was employed at the light-house depot 608 hours, and the vessel has been laid up 15 days for repairs to hull and machinery.

The Madroño's steam launch.—This launch is used by the inspector for running between San Francisco, where his office is located, and the light-house depot on Yerba Buena Island, and for distributing supplies to harbor stations. During the past year she ran about 833 miles, on a consumption of some 14 tons of bituminous coal.

Tender for the engineer of the Twelfth light-house district.—The following recommendation was made in the Board's annual reports for 1888, 1899, 1901, and 1903:

> There is now no tender for the engineer service of this important district. The only tender that can go to sea is almost constantly employed by the inspector in supplying and inspecting the light-stations and in caring for its buoys. The steam launch can be used only in the sheltered waters of San Francisco Bay. An additional tender is much needed capable of attending to construction and repair work at the several exposed stations in this district, which extends along the Pacific coast from the boundary between California and Mexico to the boundary between California and Oregon. It is estimated that a proper tender for this duty can be built for not exceeding $90,000, and it is recommended that an appropriation of this amount be made therefor.

The following recommendation was made in the Board's annual report for 1900 and 1903:

> When the estimate for this vessel was made it could have been built for the sum named. It can not now be built for less than $125,000, and the Board recommends that an appropriation of this amount be made therefor.

It is now estimated that this vessel can not be built for less than $135,000, and the Board recommends that an appropriation of this amount be made therefor.

HAWAIIAN LIGHT-HOUSE ESTABLISHMENT.

[Being a part of the Twelfth light-house district.]

On December 29, 1903, the Light-House Board was directed to take charge of the Hawaiian light-house service. The Board, with the approval of the Secretary of Commerce and Labor, at its session on January 4, 1904, ordered that "the boundaries of the Twelfth United States light-house district be extended so as to include within it the Hawaiian Islands and their dependencies."

The Comptroller of the Treasury, in the meantime, in response to the request of the Secretary of Commerce and Labor, made at the instance of the Light-House Board, had on December 23, 1903, decided that "the appropriations for the Light-House Establishment, so far as applicable thereto, could be extended for the maintenance of the light-houses and buoys" of Hawaii. Hence the Board found itself able to meet the expenses required to support the Hawaiian light-house service.

On December 28, 1903, the President by proclamation ordered that the light-house service of the Territory of Hawaii be taken over on January 1, 1904, and that the Department of Commerce and Labor, through the Light-House Board, be charged with all the administrative duties relative thereto.

The light-houses of the Territory of Hawaii were taken over by the United States in accordance with the proclamation of the President. The Territory was then made a portion of the Twelfth light-house district by the Light-House Board, and assistants were assigned to the inspector and engineer of that district for duty in the subdivision.

Assistant to the inspector.—Lieut. Commander A. P. Niblack, U. S. Navy.

Assistant to the engineer.—First Lieut. J. R. Slattery, Corps of Engineers, U. S. Army.

There are in the subdivision:

Light-houses and beacon lights maintained by the United States	18
Day or unlighted beacons	19
Bell buoys	1
Other buoys	20

LIGHT-STATIONS.

Nawiliwili, east side of Kauai Island, on Ninini Point, north entrance to Nawiliwili Harbor.—A lantern of small power was placed before a small window in a room built on top of a square wooden trestle tower 40 feet high. The light is estimated to be 70 feet above high water. The lamp was out of repair, and the room on the tower needed to be rebuilt. The room on top of the tower was therefore removed, and a small box locker built in its place. On this locker was mounted a small lens lantern. The tower is dilapidated and unsafe. The dwelling is not fit for human habitation. There is no oilhouse.

Barbers Point, on Barbers Point, the southwest cape of the island of Oahu.—This is a fifth-order fixed white light estimated to be 50 feet above high water. The light is shown from a white cylindrical stone tower 40 feet high. The station is reached by a very rough

trail from the railroad, 3 miles distant. The roof of the keeper's dwelling was repaired.

Honolulu Harbor range lights, Honolulu Harbor.—The front range is located in the harbor on the inner edge of the reef. It is a fifth-order fixed red light with a white sector, 25 feet above high water. The light is shown from a white pyramidal wooden tower 35 feet high, built on piles. The piles are decayed, and the structure is unsafe. The rear range light is a fixed green light, consisting of an ordinary kitchen lamp, estimated to be 55 feet above high water. It is shown from a small iron box placed on top of the custom-house.

Diamond Head, on the south side of Oahu Island, on the southwest side of Diamond Head, 4 miles southeast of Honolulu.—This is a small third-order fixed white light, estimated to be 175 feet above high water. It is shown from a white pyramidal stone tower 62 feet high. To provide room for storing supplies, a floor was built in the tower, 14 feet above the ground floor, and shelves were placed in both rooms so formed. Windows were also placed in two existing openings in the tower walls. There are no quarters at the light-house for the keeper, who lives in a private dwelling one-quarter of a mile from the light-house.

Ka lae o ka laau, on the southwest point of the island of Molokai.—This is a fourth-order fixed white light, estimated to be 50 feet above high water. It is shown from a white wooden pyramidal tower 30 feet high.

Kaunakakai range lights, on the southeast coast of Molokai.—This range consists of two low-power lanterns—one red, the other white—hung on posts. This range guides vessels through the break in the reef to the anchorage.

Lahaina, on the west coast of Maui, at Lahaina Roads.—This is a fixed white light composed of two ordinary kitchen lamps of small power, with red and green sectors, estimated to be 20 feet above high water. The lights are shown from a white wooden pyramidal tower built on the top of a wooden storehouse. It is difficult to distinguish this light from the lights in the town.

Maalaea Bay, island of Maui.—This consists of an ordinary red lantern hung from a post.

Kanahene Point (Kinau), on the south coast of Maui, west side of La Perouse or Keonevis Bay, 3 miles south of Makena.—This is a fixed white light, composed of two ordinary kitchen lamps, estimated to be 50 feet above high water. The light is shown from a pyramidal room built at the top of a square wooden trestle tower 40 feet high. The trestle is in bad condition. The light marks a low lava spit projecting into the sea. It was erected because of wrecks on this point. There is no dwelling for keeper at the light-house. The keeper lives 3 miles away and is compelled to cross the rough trail over the lava flow.

Mahukona, on the northwest coast of the island of Hawaii, 7 miles south of Upolo Point.—This is a fixed white light consisting of an ordinary house lamp, estimated to be 50 feet above high water. The light is shown from the top of a beehive-shaped solid stone tower 23 feet high.

Kawaihae, on the northwest coast of Hawaii, about 14 miles south of Upolo Point.—This is a fixed white light of low power, estimated to be 60 feet above high water. The light is shown from the bay win-

dow of a small room built on the top of a square wooden trestle tower 40 feet high. A footpath leads from the light to the village, one-quarter of a mile away, where the steamer lands. There is no dwelling for keeper and no oil house.

Waiakea, Hilo Bay, southeast side of Hilo Bay, in rear of wharf near entrance to Waiakea Creek.—There is a fixed red light formed by placing a red screen in front of a city arc light. It is 65 feet above high water.

Cocoanut Point, southwest part of Hilo Bay.—This is a 32-candle-power incandescent light, using the city electric current.

Paukaa, on Paukaa Point, on north entrance to Hilo Bay, 2 miles north of Hilo.—This is a fixed green light, of low power, composed of three small reflector lamps, estimated to be 150 feet above high water. The light is shown from the bay window of a small room constructed at the top of a wooden trestle tower 35 feet high.

Makahanaloa, east coast of Hawaii, 7 miles north of Hilo, one-half mile south of Alia Point.—This is a fixed white sixth-order light, estimated to be 65 feet above high water. The light is shown from the bay window of a small room built at the top of a wooden trestle tower 40 feet high. There is no dwelling for keeper. The tower and oil house are in a dilapidated and unsafe condition. Minor repairs were made to this tower.

Laupahoehoe, northeast coast of Hawaii, about 20 miles north of Hilo.—This is a fixed white light of low power, shown by an ordinary house lamp, estimated to be 35 feet above high water. It is shown from a box on a wooden trestle tower 30 feet high. The tower is in a dilapidated condition and the light inefficient. It is distinguished with difficulty from the lights of the town behind it. There is neither dwelling for keeper nor oil house. The light marks a reef projecting into the sea.

Kauhala, north side of Hawaii, about 5 miles south of Upolo Point.—This is a fixed white sixth-order light, estimated to be 65 feet above high water. It is shown from the bay window of a small room built at the top of a wooden trestle tower 40 feet high. The light marks a low point projecting into the sea from high cliffs on each side. There are no quarters for the keeper. The oil house is little more than a shed. The light was established because of wrecks on the point it marks.

DAY BEACONS.

Most of these stations are in such a dilapidated condition that they should be rebuilt; failing that, they should be thoroughly repaired, and in most cases the present old and poor illuminating apparatus should be replaced by new full-powered lights of proper orders.

The coasts of these islands need to be strongly lighted, because of the many sugar plantations on which there are strong electric lights visible many miles at sea. These lights, however, are frequently several miles inland, and in order that they may not be mistaken for coast lights, strong and frequent lights along the coast are necessary. Recently the U. S. S. *Iroquois*, while on a trip to Midway, sighted a bright light on Kauai when 12 miles at sea. When 2 miles from shore the loom of the land was picked up, and after running 10 miles along the coast the light was found to be some 3 miles inland. No

light could be seen at Nawiliwili, or Koloa Point. Suitable red lights on these points would have made it possible to tell that this light was not on the coast. In nearly all parts of these islands an abundance of stone, suitable for concrete work, can be found within comparatively short distances of light-house sites. Good building sand is rare, but certain sea sands are used with success, and these sands are said to be found very generally. The use of iron is regarded as inadvisable, owing to the great difficulty experienced here in protecting from corrosion, which when once started is exceedingly rapid. Wood structures, properly cared for, last well. It is therefore thought that all construction should be of stone, concrete, or wood.

Some 20 private lights are being shown at various points among the Hawaiian Islands. These the Board can neither prohibit, permit, nor maintain without legislative action. The Board, therefore, recommends that the appropriation for lighting rivers be amended by inserting the words " and Hawaiian waters " after the words " at the head of Lake Superior," and that the appropriation be increased properly therefor.

The Board is without special funds to maintain the Hawaiian light-house service, as it is to maintain the Porto Rican light-house service. The Board has been able to barely maintain the Hawaiian light-house service from the general appropriations for the maintenance of the United States Light-House Service; but, as the appropriations are only sufficient to maintain the United States Light-House Service, they are insufficient to maintain, in the way it ought, the Hawaiian light-house service in addition to the United States Light-House Service. The Board has kept the Hawaiian lights burning in the condition it found them, paying the light-keepers and making such inconsiderable and inexpensive repairs as were absolutely needed to keep the light-houses from falling down. It can not put the structures in proper repair, nor can it substitute proper illuminating apparatus for the poor lights now shown unless funds are provided for so doing. The Board, in its last annual report, estimated that it would cost $25,000 yearly to take over and maintain the Hawaiian light-house establishment. Now, with fuller knowledge, the Board states that if a proper amount can not, as would be desirable, be appropriated as a lump sum, then there should be added to and divided among the appropriations for repairs of light-houses, supplies of light-houses, expenses of buoyage, salaries of light-keepers, and lighting of rivers, such sums that the Hawaiian light-house service may be maintained without detriment, as it now is, to the United States Light-House Establishment.

One set of range beacons in Pearl Harbor were replaced during the year. A second set of range beacons in Pearl Harbor were whitewashed.

THIRTEENTH DISTRICT.

This district extends from the boundary between California and Oregon to the northern boundary of the United States and includes Alaska. It embraces all aids to navigation on the seacoast of Oregon and Washington, on the United States waters of Juan de Fuca Strait, Washington Sound, and Georgia Strait, and on the tidal waters tributary to the sea, straits, and sound between the limits named, together with those on Alaskan waters.

Inspector.—Commander C. G. Calkins, U. S. Navy.

Engineer.—Capt. (now Maj.) William C. Langfitt, Corps of Engineers, U. S. Army.

There are in this district—

Light-houses	35
Light-vessels in position	2
Day or unlighted beacons	51
Fog-signals operated by steam, hot air, or oil engines	20
Fog-signals operated by clockwork	5
Gas-lighted buoys in position	1
Whistling buoys in position	8
Bell buoys in position	4
Other buoys in position	290
Steamer *Manzanita*, buoy tender and for supply and inspection	1
Steamer *Columbine*, for construction and repair	1
Steamer *Heather*, buoy tender and for supply and inspection	1

LIGHT-STATIONS.

69. Cape Blanco, seacoast of Oregon.—The following recommendation, made in the Board's last seven annual reports, is renewed:

The quarters are insufficient for the three keepers. They can not be added to or altered to meet the needs of the station. It is estimated that a suitable new building can be erected for not exceeding $4,500, and it is recommended that an appropriation of that amount be made therefor.

90. Yaquina Head, seacoast of Oregon.—The boundary fence was rebuilt. The following recommendation, made in the Board's last five annual reports, is renewed:

The quarters furnished the three keepers are insufficient for their needs. These quarters can not be added to or altered to meet the needs of the station. A new building is required. It is estimated that a suitable one can be erected for not exceeding $4,000, and the Board recommends that an appropriation of that amount be made therefor.

92. Tillamook Rock, seacoast of Oregon.—A new boiler for the hoisting engine was installed. Various repairs were made.

97. Desdemona Sands, mouth of Columbia River, Oregon.—A windlass for hoisting small boats was set up. The fog-signal apparatus was repaired.

182. Destruction Island, seacoast of Washington.—The landing derrick was rebuilt. The incline leading from the platform to the top of the bluff was rebuilt and the walk from the tower to the dwelling renewed. Various repairs were made.

186. Slip Point, Juan de Fuca Strait, Washington.—The act approved on June 6, 1900, appropriated $12,500 for establishing a light and fog-signal station at Slip Point, Clallam Bay, Washington. Bids for building the station were opened on September 10, 1903. The lowest bid received was in excess of the balance of the appropriation left after paying for the site. On September 30, 1903, the Board authorized the building of the station by hired labor and the purchase of material under existing regulations. The necessary material was purchased, much of it landed at the site, and actual work was begun in June. The walk from the dwelling to the fog-signal building was completed. The brick foundation walls of the dwelling were built, and much excavation for the fog-signal building done. It is expected that the station will be completed by October 1, 1904.

189. Ediz Hook, Juan de Fuca Strait, Washington.—A new plank walk was laid from dwelling to tower.

The following recommendation, made in the Board's last annual report, is renewed:

It is proposed, therefore, to add to and repair the present dwelling, making it a double dwelling suitable for the two keepers, also to build a separate tower and fog-signal building and to lay cement walks around the building. It is estimated that this will cost $10,110, and the Board recommends that an appropriation of this amount be made therefor.

190. New Dungeness, Juan de Fuca Strait, Washington.—The act approved on April 28, 1904, appropriated $5,000 for a new dwelling. Plans and specifications therefor are being prepared.

191. Smith Island, entrance to Admiralty Inlet, Washington.—The boat ways were renewed. A concrete section was placed on the beach where the drift had formerly broken down the wooden stringers and the ways were extended out to low water.

193. Admiralty Head, entrance to Admiralty Inlet, Washington.—Owing to the fortification work it was found necessary to move the light-station. Exchange was made of the light-house site for two suitable pieces of ground near by belonging to the War Department. The act approved on March 3, 1901, appropriated $12,000 to be used in part payment of the cost of the buildings. The station now being built by the War Department is practically completed. The light was, on June 25, 1903, moved and established, without change in the characteristic, in the new station.

195. Marrowstone Point, Admiralty Inlet, Washington.—The boat-house was moved and converted into a barn. A fence was built around the reservation.

201. Battery Point light-station, Washington.—The following recommendation, made in the Board's last annual report, is renewed:

The act approved on June 28, 1902, appropriated $6,000 for the establishment of a fog-signal at this point. A preliminary survey was made to determine the area and the boundaries of the site selected. The prices asked by the owners of this land are in excess of the appropriation. It is thought that by condemning the land it can be obtained at a figure under the appropriation, leaving, however, but little for the construction of the station. The Board therefore recommends that an additional appropriation of $6,000 be made for completing this station.

It is now found that owing to the increase in cost of labor and material since the estimate was made, some three years ago, $8,000 will be needed for this purpose, and the Board therefore now recom-

mends that an appropriation of $8,000, instead of $6,000, as first asked, be made therefor.

203. Robinson Point post light, Washington.—The following recommendation, made in the Board's last seven annual reports, is renewed:

> The dwelling at this station is arranged for the accommodation of one family, but as there are two keepers employed the quarters are insufficient and a new building is urgently needed. It is estimated that a suitable building can be erected for not exceeding $5,000, and it is recommended that an appropriation of that amount be made therefor.

204. Browns Point, Puget Sound, Washington.—The act approved on June 6, 1900, appropriated $6,000 for establishing a light and fog-signal station here. The station was completed in September, 1903, and on October 26, 1903, the light was shown.

211. Muckilteo Point, Possession Sound, Washington.—The act approved on January 9, 1903, appropriated $22,000 for establishing this light and fog-signal. Measures are now being taken to obtain title to the site selected.

225. Burrows Island, Washington Sound, Washington.—The act approved on February 24, 1903, appropriated $15,000 for the establishment of this light and fog-signal. A site was obtained on June 28, 1904, by condemnation, and damages to the amount of $350 were awarded. Plans and specifications for building the station are being prepared.

238. Semiahmoo Harbor, Washington Sound, Washington.—The land for the site of this light-station was condemned on January 10, 1904, and damages to the amount of $50 were awarded. A contract for the construction of the station is now being made.

239. Tree Point, entrance to Revillagigedo Channel, Alaska.—The construction of this light-station was completed, and on April 30, 1904, the light was shown therefrom for the first time. A slight fire occurred here on May 15, 1904. The damages were repaired.

240. Mary Island, Revillagigedo Channel, Alaska.—The contractors for the erection of the station completed their work on July 31, 1903. The station was lighted on July 15, 1903, for the first time. The cisterns and the approach to the boat ways were repaired.

241. Guard Island, entrance to Tongas Narrows, Clarence Strait, Alaska.—The material for building the structures was purchased last fall and shipped to the site, together with a small party of workmen. All clearing, grading, and excavating for the several structures was completed and work was discontinued on January 1, 1904, on account of rough weather. Work was again resumed in the early part of June. It is expected that the station will be completed by October 1, 1904.

242. Lincoln Rock, Clarence Strait, Alaska.—The work of constructing the station was completed, and the station was on December 1, 1903, lighted for the first time. A cutwater was built on the south end of the pier to split the seas and prevent their breaking against the superstructure. A narrow apron on the footing was built around the base of the pier to prevent undermining by the sea at the junction of the pier with the surface of the rock. The vaults inside the pier were filled up with gravel to the level of the hoisting engine-room floor, and a cement floor was laid on the top of the gravel filling. The exterior of the pier was repaired at various points.

245. Southeast Five Finger Islands, Frederick Sound, Alaska.—The landing platform was raised 4 feet, strengthened, and enlarged. The hoisting engine and boiler were moved to the landing platform, and an engine house was built. A workshop 12 feet by 20 feet was built. The old buildings used by the contractors were removed, and the grounds were cleaned up. The fog-signal apparatus was also overhauled and put in good working order.

246. Fairway Island, entrance to Peril Strait, Alaska.—On March 23, 1904, the plans and specifications were completed for building the station by hired labor and purchase of material, and the materials were purchased and landed at the site, when the work of construction was begun. The grading for the foundations of the dwelling and the boathouse was finished, and much clearing was done to extend the visibility of the light up Peril Strait. It is expected that the station will be completed by October 1, 1904.

249. Point Retreat, Lynn Canal, Alaska.—Plans and specifications were made for building the station by hired labor and purchase of material, and the materials were purchased and landed at the site, and the work of construction was begun. Much grading was done. It is expected that the station will be completed by October 1, 1904.

251. Point Sherman, Lynn Canal, Alaska.—The plans and specifications were made for building the station by hired labor and purchase of material. The material was purchased and landed at the site, and the work of construction was begun. Much grading was done. It is expected that the station will be completed by October 1, 1904.

252. Scotch Cap, Unimak Pass, Aleutian Islands, Alaska.—The station was completed on July 17, but it was nearly a month earlier when it was lighted, on June 18, 1903. The fog-signal was ready on July 17, but, upon starting, all three check valves were broken, making the signal useless. New valves were procured, and the signal was made ready for use on September 16, 1903.

253. Cape Sarichef, entrance from Bering Sea to Unimak Pass, Aleutian Islands, Alaska.—The station was completed on October 1, 1903, with the exception of placing the lantern. On October 1, 1903, while unloading material, the small boat capsized and one of the laborers was drowned. Men and material for completing the work were sent up to the station in May, 1904. No reports have been received since that date. It is expected that the station will be ready by July 1, 1904.

The following-named amounts were appropriated for the establishment of light-houses and fog-signals in Alaskan waters:

By act of June 6, 1900	$100,000
By act of March 3, 1901	200,000
By act of June 28, 1902	126,013
By act of March 3, 1903	200,000
Total	626,013

The approximate balance of the appropriation for light and fog-signal stations in Alaska, after completing the stations now under construction, will be about $75,000.

After the completion of these stations, the Board recommends that the balance of the appropriation be used toward establishing a light-house depot in Alaska.

POST LIGHTS.

These lights are efficient aids to navigation in the inland waters of Oregon and Washington, and their numbers could be materially increased with great advantage to commerce. With few exceptions, these lights have been inspected during the year, and many of the structures have been painted and repaired or rebuilt. Few complaints have been received, and the laborers in charge of the post lights have generally done their work satisfactorily. The utility of these post lights is thoroughly recognized, and numerous requests for new post lights were received. Thirteen posts lights were established and four discontinued during the year.

REPAIRS.

Repairs more or less extensive were made at the following light-stations:

69. Cape Blanco, Oreg.
70. Coquille River, Oreg.
71. Cape Arago, Oreg.
84. Heceta Head, Oreg.
91. Cape Meares, Oreg.
173. Cape Disappointment, Wash.
174. North Head, Wash.
176. Grays Harbor, Wash.
190. New Dungeness, Wash.
192. Point Wilson, Wash.
198. Point No Point, Wash.
200. West Point, Wash.
203. Robinson Point, Wash.
235. Turn Point, Wash.
236. Patos Islands, Wash.
250. Sentinel Island, Alaska.

DAY OR UNLIGHTED BEACONS.

The day beacons were renovated and are generally in a satisfactory condition. Many of the beacons in Wrangell Strait, Alaska, were entirely rebuilt. Three beacons were established during the year.

Minor Island, Juan de Fuca Strait, Washington.—On June 30, 1904, a white concrete truncated pyramid, 10 feet square at the base, 4 feet square at the top, 12 feet high, surmounted by a black iron spindle 12 feet in height, carrying a black spherical cage 3 feet in diameter, was established.

On May 21, 1904, there was completed on Key Reef, which is awash at high water and is about 7½ miles SE. by E. ¾ E. from Lincoln Rock light-house, Clarence Strait, a white concrete pyramid, 20 feet high, 12 feet square at the base, and 4 feet square at the top, surmounted by a black iron spindle 12 feet high, carrying a black spherical cage 3 feet in diameter.

Killisnoo Harbor, Chatham Strait, Alaska.—The beacon was renewed and is in good condition.

LIGHT-VESSELS.

93. Columbia River light-vessel, No. 50, Oregon.—The vessel has been continuously on her station during the year, and is in fair condition.

183. Umatilla Reef light-vessel, No. 67, Washington.—The vessel has been continuously on her station during the year, and is in fair condition.

—. Relief light-vessel, No. 76, for Twelfth and Thirteenth light-house districts, on the Pacific coast.—This is a first-class steel steam light-vessel of about 578 tons displacement, 117 feet 7 inches long

between perpendiculars, 28 feet 8 inches beam, molded, 14 feet 11 inches depth of hold. She has two continuous decks, two boilers, and one compound engine of about 500 indicated horsepower. She has two masts and will show a cluster of three oil lights from each mast. The construction of the vessel has been much delayed, owing to strikes and to difficulties in getting needed material, but she is now completed and arrangements are being made to send her to the Pacific coast this fall. She will carry about 104 tons of coal and about 14,000 gallons of fresh water. She has a powerful steam windlass, steam-heating, and sanitary arrangements for officers and crew, a 12-inch steam whistle, and all modern improvements.

Light-vessel off Orford Reef, 5 miles north of Cape Blanco, Oregon.—The following is a copy of a letter, dated December 14, 1903, from the Secretary of Commerce and Labor to the Secretary of the Treasury:

This Department, at the instance of the Light-House Board, recommends that an appropriation of $120,000 be made for the establishment of a light-vessel off Orford Reef, about 1 mile north of Fox Rock and 5 miles north of Cape Blanco, Oregon. The Light-House Board called upon the inspector and engineer of the Thirteenth light-house district for a joint report on the necessity for the establishment of a fog-signal at Cape Blanco, Oregon, and the following is an extract from that report:

The group of islands and rocks known as Orford Reef lies 5 miles off Cape Blanco, and extends 2½ miles north and south and 1½ miles east and west. It includes no less than 47 dangers, many of which rise abruptly, so that a vessel may be in great danger while in 30 fathoms of water. Fogs are very prevalent in this region, and the currents are strong and irregular. A strong inshore eddy or countercurrent sets to the northward and eastward off Cape Blanco, and often carries vessels into hazardous positions. As the reef lies off the most westerly cape on the coast, vessels make it a turning point in fine weather, and often find themselves too close in during fogs. All these conditions render this obstacle a serious danger to navigation. Nevertheless it is not easy to recommend aids which would remedy these dangers.

Were a fog-signal erected near the present light-house at Cape Blanco and made powerful enough to be heard 8 miles a navigator shaping his course tangent to that circle of audibility would pass within 3 miles of the reef. Any error in his calculations or a strong eddy current might bring him into danger.

Moreover, it is not safe to neglect well-known facts concerning aberrations of audibility of fog-signals. Off Tillamook Rock a zone of inaudibility has been found between 2 and 4 miles westward of the light. There is no reason to anticipate greater certainty or regularity off Cape Blanco.

The seaward face of that cape is a steep cliff of 200 feet elevation. This elevation and the exposure to strong winds might combine in causing aberrations of audibility and difficulty in determining the source of sound, thus confusing navigators trying to pass outside the reef. Therefore we are unable to recommend the construction of a fog-signal at this point.

A first-class light and fog-signal on one of the larger islets of the reef would be less liable to these objections and would greatly reduce the dangers to navigation in this vicinity. The largest of these islets is Table Rock, which lies 3 miles south of Cape Blanco and 2¼ miles NE. by N. of the outer rock of this group. It is described as nearly circular and about 150 yards in diameter, rising almost vertically to a rounding flat top 147 feet above the sea. It is surrounded by sunken rocks, preventing the approach of a vessel, and the surf is heavy around its base throughout the year. We are not prepared to recommend that the vast expense of constructing and maintaining a light in this vicinity should be incurred at present. Should such a station be constructed at any time the light on Cape Blanco might be discontinued.

FOG-SIGNALS OPERATED BY STEAM OR HOT AIR.

70. Coquille River, Oregon.—The Daboll trumpet was in operation some 262 hours, and consumed about 6 tons of coal.

71. Cape Arago, Oregon.—The Daboll trumpet was in operation some 402 hours, and consumed about 7 tons of coal.

92. Tillamook Rock, Oregon.—The first-class siren was in operation some 115 hours, and consumed about 7 tons of coal.

93. Columbia River light-vessel, No. 50, Oregon.—The 12-inch steam whistle was in operation some 588 hours, and consumed about 42 tons of coal.

97. Desdemona Sands, Oregon.—The Daboll trumpet was in operation some 177 hours, and consumed about 112 gallons of oil.

176. Grays Harbor, Washington.—The first-class siren was in operation some 564 hours, and consumed about 52 tons of coal.

182. Destruction Island, Washington.—The first-class siren was in operation some 240 hours, and consumed about 16 tons of coal.

183. Umatilla Reef light-vessel, No. 67.—The 12-inch steam whistle was in operation some 330 hours, and consumed about 15 tons of coal.

184. Cape Flattery, Washington.—The 12-inch steam whistle was in operation some 549 hours, and consumed about 35 tons of coal.

190. New Dungeness, Washington.—The 12-inch steam whistle was in operation some 313 hours, and consumed about 23 tons of coal.

192. Point Wilson, Washington.—The 12-inch steam whistle was in operation some 345 hours, and consumed about 31 tons of coal.

198. Point No Point, Washington.—The Daboll trumpet was in operation some 283 hours, and consumed about 276 gallons of oil.

200. West Point, Washington.—The Daboll trumpet was in operation some 296 hours, and consumed about 94 gallons of oil.

203. Robinson Point, Washington.—The 12-inch steam whistle was in operation some 181 hours, and consumed about 14 tons of coal.

235. Turn Point, Washington.—The Daboll trumpet was in operation some 180 hours, and consumed about 39 gallons of oil.

236. Patos Island, Washington.—The Daboll trumpet was in operation some 160 hours, and consumed about 47 gallons of oil.

239. Tree Point, Alaska.—The automatic siren, which went into operation on April 30, 1904, was in use for some 8 hours only and consumed about 16 gallons of oil.

240. Mary Island, Alaska.—The Daboll trumpet was in operation some 121 hours, and consumed about 81 gallons of oil.

242. Lincoln Rock, Alaska.—The Daboll trumpet, which went into operation on December 1, 1903, was in use for some 98 hours only, and consumed about 61 gallons of oil. No report for June has yet been received from this distant fog-signal.

245. Southeast Five Finger Islands, Alaska.—The Daboll trumpet was in operation some 146 hours, and consumed about 57 gallons of oil.

250. Sentinel Island, Alaska.—The Daboll trumpet was in operation some 243 hours, and consumed about 119 gallons of oil.

252. Scotch Cap, Alaska.—The 10-inch whistle was in operation some 103 hours, and consumed about 401 gallons of oil. No report for June has yet been received from this distant fog-signal.

BUOYAGE.

During the year ten buoys were established and nine buoys were discontinued. Experiments have been tried with different styles of gas buoys on the Columbia River bar, but none of them have proved

completely satisfactory. With but a few and minor exceptions, the buoys of the district were changed during the year. In May and June all the buoys in southeastern Alaska received careful attention. All the whistling and bell buoys are in good condition.

LIGHT-HOUSE DEPOT.

Tongue Point, Astoria, near the mouth of Columbia River, Oregon.—A fence was constructed around the light-house reservation. The repairs to the wharf, completed in June, 1904, consisted in replacing 58 decayed piles under the middle warehouse, renewing the decking of the wharf and the approach west of the spar-buoy shed, and in the renewal of the lower 4 feet of walls of the middle warehouse. The 30-foot power launch, purchased last year for the use of the depot, has been used in the delivery of supplies and other work required of it.

LIGHT-HOUSE TENDERS.

Manzanita.—This wooden screw steamer was built in 1879 and is of 450 tons gross burden. She steamed some 9,411 miles on about 1,001 tons of coal. She was under steam some 295 days, and her machinery was in motion some 49 days. She delivered about 281 tons of coal to the different fog-signal stations and light-vessels; she established, changed, replaced, or renovated 132 buoys and 37 beacons, also 37 post lights; she delivered 360 tons of supplies, etc., to the different light-stations, light-vessels, and post lights, and was employed about 598 hours at the light-house depot in renovating buoys and other necessary work. She received needed fitments, supplies, and repairs.

Heather.—This steel screw steamer, of 731 tons displacement, was completed during the spring of 1903 and went into commission on June 10, 1903. During the year the tender steamed some 12,510 miles on a consumption of about 1,300 tons of coal. She was under steam at least a part of each day during the year, and her machinery was in motion about 53 days. She delivered 254 tons of coal to the different fog-signal stations and light-vessels; established, changed, renovated, or replaced 151 buoys and beacons; established 11 new aids; also delivered 341 tons of freight and 7,000 feet of lumber to the light-stations, light-vessels, and post lights of the district, and was employed 401 hours at the light-house depot in renovating buoys and other necessary works. She received needed supplies, fitments, and repairs.

Columbine.—This steel screw steamer was built in 1892 and is of about 424 tons burden. She steamed during the year some 14,746 miles and consumed about 1,447 tons of coal. She was used for repair duty, and in addition landed 22 tons of coal and 82 tons of freight at light-stations; set, changed, and renovated 15 buoys, and, when not otherwise employed, was employed at the light-house depot. She received needed supplies, fitments, and repairs.

Homer.—This screw steamer was chartered on April 23, 1903, for use in building light-stations in Alaska, and was returned to her owners on December 1, 1903. She was again chartered for similar work on April 28, 1904, and is still under charter.

FOURTEENTH DISTRICT.

The Fourteenth district extends on the Ohio River from Pittsburg, Pa., to Cairo, Ill., 966 miles; on the Tennessee River, 255½ miles, and on the Great Kanawha, 73½ miles—in all, a distance of 1,295 miles—and embraces all the aids to navigation within these limits.

Inspector.—Lieut. Commander Arthur P. Osborn, U. S. Navy.

Engineer.—Col. Garrett J. Lydecker, Corps of Engineers, U. S. Army.

In this district there are:

Post lights	490
Floating lights	37
Laborers attending post lights on June 30, 1904	495
Steam tender *Goldenrod*, for supply and inspection	1
Daymarks	6
Experimental barrel buoys, 2 above Cairo bridge and 3 above Henderson bridge	5

During the spring inspection trip all the light-stations were visited. The lantern posts were painted and interfering trees and brush were cleared away. During the year 8 new lights were established, 3 were discontinued, and various changes were made in the location of others. Seventy-three posts were reset, 1,928 trees were cut, more than 7 acres of brush were cleared, and 15,016 gallons of oil, with 63 gross of wicks, were distributed.

LIGHT-HOUSE TENDER.

Goldenrod.—This is a steel stern-wheel steamer. She was built in 1888 and is of 461 tons gross burden. Two trips of supply and inspection were made during the year. She steamed about 5,375 miles and consumed some 673 tons of coal, at an average cost of $1.60 per ton.

FIFTEENTH DISTRICT.

The Fifteenth district extends on the Mississippi River from the head of navigation to Cairo, Ill.; on the Missouri River to Kansas City, and on the Illinois River to Lasalle, and includes all the aids to navigation within those limits.

Inspector.—Commander Asher C. Baker, U. S. Navy.

Engineer.—Maj. Thomas L. Casey, Corps of Engineers, U. S. Army.

Number of lights fixed and floating on June 30, 1904	500
Lights established	60
Lights discontinued	60
Daymarks established	50
Daymarks discontinued	80
Laborers attending post lights on June 30, 1904	339
Number of channel marks	181
Number of trees over 4 inches in diameter cut down	2,465
Number of acres cleared of willows and underbrush, about	112
Steamer *Lily*, for supply and inspection	1
Number of gallons of oil issued	11,252
Wicks issued, gross	35

Ten inspection, supply, and patrol trips were made by the tender. Of these, 3 were to stations on the Mississippi River above St. Louis. 6 to stations below St. Louis, and 1 to those on the Illinois River.

Investigation of the few complaints received of lights being out has shown such to be due generally to causes other than neglect or carelessness on the part of the keepers, and it is inferred from reports made from time to time by masters and pilots navigating these waters that the efficiency of the district has been well maintained and the work very satisfactorily done.

Navigation closed on the Mississippi, Illinois, and Missouri rivers as follows:

Mississippi River.—St. Paul to Keokuk, November 15, 1903; Keokuk to Grafton, November 30, 1903; Grafton to St. Louis, December 2, 1903.

Illinois River.—Sand Point to above Frederick, November 25, 1903; above Frederick to mouth of Illinois River, December 3, 1903.

Missouri River.—One light, November 30, 1903.

The average date of discontinuance was November 21, 1903.

Between St. Louis, Mo., and Cairo, Ill., navigation was suspended and the lights were discontinued as follows:

	Days.
St. Louis to Commerce, Mo	56
Commerce to Cairo, Ill	76

This suspension was on account of ice and low water. In the spring the lights were shown as follows:

Mississippi River.—St. Paul to Dubuque, May 1, 1904; Dubuque to Rock Island, April 15, 1904; Rock Island to Moziers, April 1, 1904; Moziers to St. Louis, March 18, 1904.

Illinois River.—Mouth of Illinois River to Beardstown, March 18, 1904; Beardstown to Sand Point, March 24, 1904.

The average date of showing the lights again was April 12, 1904.

LIGHT-HOUSE TENDER.

The tender *Lily*, built in 1875, is a wooden side-wheel steamer of about 507 tons gross burden. The condition of the hull, boilers, and their appurtenances is excellent.

She was employed 195 days and was unemployed 171 days. She was under way about 1,505 hours and visited 1,975 stations, moved 280 stations, and reset 192 stations. She established 60 lights and discontinued 60 lights, established 50 daymarks and discontinued 89 daymarks, cleared about 112 acres of willows and brush, cut 2,465 trees which were over 4 inches in diameter, and in doing so steamed about 5,689 miles, consuming about 1,274 long tons of coal. Various repairs were made.

SIXTEENTH DISTRICT.

The Sixteenth light-house district extends on the Mississippi River from Cairo, Ill., to New Orleans, La., a distance of 1,054 miles, and on the Red River, a distance of 12 miles—in all, a distance of 1,066 miles—and includes all aids to navigation within those limits.

Inspector.—Commander Thomas Nelson, U. S. Navy, to November 20, 1903; Lieut. Commander Holman Vail, U. S. Navy, from November 20, 1903.

Engineer.—Capt. C. L. Potter, Corps of Engineers, U. S. Army, to July 17, 1903; Capt. E. W. Van C. Lucas, Corps of Engineers, U. S. Army, from July 17, 1903.

There are in this district—

Post lights	397
Daymarks	53
Laborers attending post lights on June 30, 1904	368
Steam tender *Oleander* for supply and inspection	1

POST LIGHTS.

Most of the post lights are equipped with triangular post lanterns inclosing 8-inch Fresnel globes and furnishing an excellent light, visible a distance of 3 to 5 miles. In addition to the post lights, cross-board daymarks 12 inches square are in position at every needed crossing. Three complete inspection, pay, and supply trips were made through the district.

During the year 1,099 post lights were visited, inspected, painted, and supplied; 339 post lights were moved and reset; 18 post lights were established; 20 post lights were discontinued; 24 laborers attending post lights were dropped and 31 laborers were employed to attend post lights; 2,158 trees were felled, each over 4 inches in diameter; about 41 acres of willows, cottonwood, and brush were cleared; and 16,485 gallons of mineral oil and 43 gross of lampwicks were issued.

LIGHT-HOUSE TENDERS.

Three steamers served as tenders in this district during the past year. The *Joseph Henry* was used for the midsummer inspection, and made a partial trip in October, 1903, and was sold at auction on January 5, 1904. For the December, 1903, trip the steamer *Nokomis*, belonging to the Mississippi River Commission, was loaned to the Light-House Establishment. The new light-house tender *Oleander* made the final trip.

The *Oleander* was turned over to the Government by the contractors on January 23, 1904. She is a light-draft, stern-wheel steamer, with a length over all of 188 feet 6 inches, a beam of 34 feet, and a model depth of 7 feet. She is built of steel, with a superstructure of

wood, and a draft of 3 feet, light. Her speed is about 16 miles. Her displacement is 400 tons. She is fitted with two compound surface condensing engines, with cylinders 13 and 26 inches, and a stroke of 72 inches. Steam is furnished by two return-tube, dry-back boilers, for a working pressure of 200 pounds. The stern-wheel is 22 feet in diameter, and two balance rudders are fitted to work simultaneously. The tender has an ice machine, which supplies the ice needed on the boat, a steam capstan, a steam steerer, and steam heating apparatus. Ample room is provided for the inspector, officers, and crew. One complete inspection of the district was made on the *Oleander*. During the year the tenders above mentioned steamed about 5,894 miles and consumed some 1,074 gross tons of coal. They were under steam 245 days and had steam 120 days on the donkey boiler. The machinery was in motion, exclusive of the electric-light engine, 44 days.

CONCLUSION.

The Board feels warranted in reporting, in conclusion, that the general efficiency of the service has been maintained throughout the year at as high a standard as was practicable with the means available.

R. D. EVANS,
Rear-Admiral, U. S. Navy, Chairman.
C. T. HUTCHINS,
Captain, U. S. Navy, Naval Secretary.
D. W. LOCKWOOD,
Lieutenant-Colonel, Corps of Engineers, U. S. Army, Engineer Secretary.

The SECRETARY OF COMMERCE AND LABOR.

REPORT

OF THE

DIRECTOR OF THE CENSUS

REPORT

OF THE

DIRECTOR OF THE CENSUS.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF THE CENSUS,
Washington, October 15, 1904.

SIR: I have the honor to submit the following report upon the operations of the Bureau of the Census for the last fiscal year. The report covers the first year under the supervision of the Department of Commerce and Labor, and the second year of the existence of the Bureau of the Census as a permanent office under the act of March 6, 1902.

EXPENDITURES OF BUREAU DURING THE FISCAL YEAR.

Attached to this report as an appendix will be found the financial statement of Mr. John W. Langley, disbursing officer, showing in detail the expenditures of the Bureau during the last fiscal year. The total amount disbursed was $1,316,811.22. Included in this sum is the cost of tabulating and compiling the census of the Philippine Islands, approximately $214,117.58. This amount should be deducted in comparing the expenditures of the Bureau for 1904 with those for 1903. Much of the extra expenditure caused by this tabulation was met from the unexpended balance of the Twelfth Census appropriation, reappropriated by Congress for that purpose, but a considerable part of the work was performed by the regular clerical force of the Bureau, and paid for out of the current appropriations. The cost, also, of preliminary Philippine census printing, such as blanks, tabulation sheets, bulletins, etc., was defrayed out of the appropriation to the Public Printer for the requirements of the Bureau of the Census.

Deducting the cost of the Philippine census as shown above, the amounts required for the conduct of the Bureau for the fiscal years 1903 and 1904 were as follows:

	1904.	1903.
Expenses, exclusive of printing and engraving	$959,022.24	$1,154,117.94
Printing and engraving	143,671.40	196,153.14
Total	1,102,693.64	1,350,271.08

The census of manufactures ordered by Congress for 1905 makes it necessary to increase the amount estimated to be required for the coming year so as to include that undertaking. The estimate for the fiscal year 1905–6 is $1,482,340.

JUSTIFICATION OF THE ESTABLISHMENT OF THE PERMANENT CENSUS BUREAU.

Sufficient time has now elapsed to justify the conclusion that the establishment of a permanent Census Office was wise legislation, altogether apart from the main arguments which led Congress to enact the law. These arguments were that it would permit of careful and scientific study of the main and secondary results of the decennial enumerations; that it would keep together a corps of experts, trained and competent to prepare for and take the Thirteenth Census, and sufficiently familiar with the methods and scope of previous censuses to insure close comparability and greater accuracy in the results; and that it would create a central office, exclusively devoted to statistical investigation, in which many statistical inquiries now carried on in bureaus not specially equipped for such work could gradually be concentrated.

VALUE OF CENSUS BUREAU PUBLICATIONS.

Much has already been accomplished along these lines. The list of publications of the Bureau of the Census for the last fiscal year, Appendix C, shows a number of supplementary statistical reports, analyzing and interpreting the results of the Twelfth Census, in directions that heretofore have been neglected, for lack of time and opportunity to consider them. Other studies, of equal interest and importance, are in progress or are contemplated. These studies in many instances deal with data hitherto untabulated. They possess a sociological value hardly less than that which attaches to the main census results. Their presentation places the census of the United States in the first place among the censuses of the world; for no other country has as yet been able to carry its interpretative analysis as far as this Bureau is now doing. This achievement possesses special significance when the practice in previous census work is recalled. It long has been the custom in the United States to secure census information considered essential by all civilized nations, and in addition to obtain on the schedules material not included in foreign census inquiry, yet heretofore the interpretation of basic material has been inadequate and no analysis whatever of most of the remaining information has been attempted, although the cost of obtaining it was often very large.

PREPARATION FOR THIRTEENTH CENSUS.

This work is the most effective preparation for the Thirteenth Census. It lays bare the errors and sources of error in the last enumeration, and affords every facility for guarding against their recurrence. In order that the best possible utilization of the opportunity may be made, your predecessor appointed a special advisory commission on the recommendation of the Director of the Census, whose duty it will be to make a thorough study of all the conditions surrounding census

work in this and other countries, and to prepare a report for the guidance of Congress in enacting legislation for the Thirteenth Census. This committee, with which the Director of the Census will act, consists of Hon. Carroll D. Wright, of the Bureau of Labor; Prof. Walter F. Willcox, of Cornell University; Dr. Henry Gannett, of the United States Geological Survey; Prof. Davis R. Dewey, of the Massachusetts Institute of Technology and Mr. John Hyde, of the Department of Agriculture—all of them trained students of the theory and technique of modern statistics and interested in raising the statistical work of the United States to the highest standard. This commission will also advise with the Director of the Census as to the current work of the Bureau, in order to aid him in the effort to bring that work to the highest standard of modern scientific statistical inquiry. It plans to meet at stated intervals, and to obtain suggestions and criticisms from students in all lines of statistical investigation.

COMPILATION OF THE PHILIPPINE CENSUS.

The practical usefulness of the Bureau of the Census as a part of the permanent organization of the Government is shown again by the character of the work of the Bureau, in addition to that specifically assigned to it by law. Most important has been the compilation and publication of the census of the Philippine Islands, assigned to the Bureau by the proclamation of the President, dated September 30, 1902, in accordance with the provisions of section 6 of the act of Congress approved July 1, 1902, entitled "An act temporarily to provide for the administration of the affairs of civil government in the Philippine Islands," and in compliance with the request of the Philippine Commission. The schedules of the Philippine census were received in this Office on September 25, 1903; and the complete tables for population, agriculture, manufactures, and vital statistics, and much other data, have been placed in the hands of the director of the Philippine census at intervals during the first six months of the year, the last of the tables being transmitted on October 19, 1904. The work of compiling the population statistics was under the supervision of Mr. William C. Hunt, chief statistician for population.

The final results of the Philippine census will be printed in four octavo volumes, of approximately 700 pages each. These volumes are now passing through the Government Printing Office, under the supervision of the technical expert of this Bureau, and their publication may be looked for prior to March 1, next.

In the compilation of the Philippine census, the regular clerical force of the Census Bureau was utilized exclusively, except for a period of three months, during which 150 temporary clerks were employed in order to expedite the punching of the cards.

STATISTICS OF THE EXECUTIVE CIVIL SERVICE.

By order of your predecessor, dated October 8, 1903, the Bureau of the Census has compiled the statistics of the executive civil service of the United States, and the results have recently appeared as Census Bulletin 12. These statistics were collected, pursuant to the Executive order of March 31, 1903, in connection with the preparation of

the biennial Official Register by the Secretary of the Interior, and they have been presented in accordance with a scheme formulated by the Civil Service Commission. They show the sex, nativity, age, character of appointment, State from which appointed, length of service, salary, character of work, and place and office where employed of the 150,383 employees of the Federal Government. The data presented are important and interesting. Accurate information regarding the personnel of the executive civil service can be secured only by compilations of this character, and there will undoubtedly be a demand for it at stated intervals. The Official Register is published biennially; and as much of the information collected for it can be utilized for statistical purposes, the Bureau of the Census should be authorized to compile a similar bulletin at intervals of two, four, or six years. The Census is the only Bureau of the Government equipped to make this compilation; and it is respectfully suggested that it will tend to economy and unity of work if the compilation of the Official Register should at the same time, and by amendment of the act of Congress approved January 12, 1895, be transferred from the Department of the Interior to the Bureau of the Census, in order that work so intimately related may be simultaneously carried on.

STATISTICS OF IMMIGRATION COMPILED IN COOPERATION WITH BUREAU OF IMMIGRATION.

By a similar order of the Secretary of Commerce and Labor the statistics of immigration for the year 1903–4 have been compiled by the Bureau of the Census in cooperation with the Bureau of Immigration. These statistics will hereafter be compiled in harmony with the decennial census tables, showing the birthplace of the foreign-born population. Thus an obvious statistical unification has been brought about. In the compilation of the immigration statistics the punched card has been used, and much information from the alien manifests, hitherto untabulated, is thus brought within reach.

In this connection I desire to repeat my recommendation of last year, in which the Commissioner-General of Immigration has joined, that Congress be urged to enact legislation by which the alien emigration as well as immigration can be statistically measured. There can be no accurate record of the changes effected in the character of our population by immigration, without the corresponding details of emigration. The number of these returning immigrants is large, reaching many thousands a year; and until it is officially ascertained we can not hope to bring the statistics of immigration into conformity with census statistics of the foreign born.

RATES OF WAGES COMPUTED FOR THE SPECIAL REPORT OF THE BUREAU OF LABOR.

Also, by direction of the Secretary, a portion of the clerical force of the Bureau of the Census was employed for six weeks in computing rates of wages for a special report of the Bureau of Labor; the results demonstrated the great advantage, from the point of view of celerity in compiling and promulgating official statistics, which comes from the existence of a large central office, officered by trained experts, to which statistical work, whatever its technical character,

may be transferred, by proper executive order, for quick handling. About one-quarter of the clerical force of the Bureau has been continuously occupied upon such work during the past year—work supplemental to that contemplated by the census act. In the interest of efficiency, expedition, and economy, it seems desirable that additional transfers shall be made in the future as occasion arises; and for such transfers, or for the preparation of statistical reports on any subject, there is ample authority under the provisions of the act establishing the Department of Commerce and Labor.

A GENERAL INFORMATION OFFICE.

The permanent Census Bureau is coming to be regarded as the general information office of the Government. The daily correspondence, covering inquiries on every variety of topic, is large, and steadily increasing. The rule of the Bureau is to supply the desired information, whenever possible, whether or not it relates to the specific work of the Census.

THE LIBRARY.

The Bureau is constantly enlarging its facilities for supplying such information. The Census library now contains 10,362 bound volumes and 15,639 unbound pamphlets; and the additions have come almost entirely without cost to the Government. The Bureau has established a system by which it exchanges its own publications for the trade and technical periodicals of this and foreign countries, and with practically all the governments—national, state, and local—both foreign and domestic, which publish reports statistical in character. The Census is thus rapidly accumulating one of the most complete current statistical and reference libraries in the country.

THE GEOGRAPHER'S DIVISION.

The geographer's division of this Bureau, under the supervision of Mr. Charles S. Sloan, has greatly enlarged its collection of maps, which now includes topographical maps of every State and Territory, and of nearly every city in the United States. These maps are being kept up to date by platting upon them each annexation and detachment of territory. The Bureau will thus be in possession, at the Thirteenth Census, of all the data required to lay out enumeration districts to the best advantage, the lack of this preliminary information at previous censuses having been the chief cause of confusion and delay.

THE CENSUS RECORDS.

The original schedules of the twelve decennial censuses of the United States from 1790 to 1900 are now in possession of the Bureau of the Census. These records were transferred from the Department of the Interior to the Census building, in June last, under the act of Congress approved January 12, 1903, providing for such transfer and authorizing the Director of the Census "upon the request of a governor of any State or Territory, or the chief officer of any municipal government, to furnish such governor or municipal officer with copies of as

much of said files or records as may be requested, at the discretion of the Director of the Census, upon payment of the actual cost of making such copies; and the amounts so received shall be covered into the Treasury of the United States, to be placed to the credit of and in addition to the appropriation made for the taking of the census."

PRESERVATION OF ALL POPULATION SCHEDULES.

The vault in the Census building has been put in fireproof condition and all of these valuable records are now stored in it, except the schedules of the census of 1890. The population returns of that census were taken upon what is known as the family schedule—that is, a schedule for each family, of which there were 12,690,152. Their bulk is so great as to preclude binding, it being estimated that they would comprise 30,000 volumes. During the past year the population schedules of the Twelfth Census have been bound in 2,812 volumes. Thus the population schedules of all the censuses but the Eleventh are now in condition for permanent preservation. The records of the earlier censuses have, however, been subject to much handling, and many of the bound volumes are in bad condition, necessitating their rebinding at an early date. There are constant requests for information from these records, and it has been the habit heretofore to permit the public unrestricted access to them. A rule has now been made under which the records will be searched only by the clerks in charge, who are under instructions to exercise the greatest care. With these records in its keeping, the Census Bureau is now in position to be of service to the increasing number of people interested in early history and genealogy, and to furnish certified transcripts for court proceedings. The law above cited authorizes, for the first time, the exaction of a small fee for furnishing copies, certified or otherwise, of the census records, and establishes a proper safeguard for their use.

PROPRIETY OF PUBLISHING THE RETURNS OF THE FIRST CENSUS.

In this connection I ask your attention to a request frequently made by the patriotic organizations of the country and by individuals, that the Government shall compile and publish the names of the heads of families in the original thirteen states, as returned at the census of 1790. Unfortunately the First Census schedules for Delaware, Georgia, Kentucky, New Jersey, Tennessee, and Virginia were burned at the time of the capture of Washington by the British, or have since been lost or destroyed; but the schedules still in existence—comprising Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, and Vermont—contain much information, ready access to which would be welcomed by students. This information would increase the general knowledge of the origin and distribution of the early population of the country. The population of the United States in 1790, excluding slaves, was returned as 3,231,533, of which number 824,713 resided in the States and Territories for which the schedules are missing, leaving 2,406,820 as the population enumerated on the schedules now in possession of the Bureau. I estimate that this population represents 401,134 heads of families, and that the desired infor-

mation could be printed in 2,507 pages, at a cost, for printing and binding an edition of 5,000 in two volumes, of $32,570. I doubt if the Government can make a more substantial and welcome contribution to its own history for a like sum of money; and I recommend that Congress be asked to make a specific appropriation for this publication, much of which is certain to return to the Treasury from the sale of these volumes. If they are sold to the public at a price corresponding somewhat with their cost, it will insure their distribution only to those who will prize them and avoid the waste which so frequently attends the distribution of public documents.

THE SALE OF CENSUS REPORTS.

It is a question worthy of careful consideration whether the United States, following the example of nearly all the European governments, should not set a price upon all Census publications except the bulletins and the Abstract. The volumes are large and costly to produce. While much care and discrimination are exercised in their distribution, I am nevertheless convinced that a large proportion go literally to waste, and I know of no way to prevent this so effectively as to place a small price upon each volume—not a price representing the cost of printing and binding, but sufficient to insure distribution only to those who have actual need and use for the reports.

Of the main reports of the Twelfth Census, contained in ten quarto volumes of approximately 1,000 pages each, there have been printed to date 150,000 copies. In the earnest effort to avoid waste, this total has been reached only after several editions for each volume.

PUBLICATIONS FOR THE YEAR.

The work of the Census during the past year is represented by actual publications, reports completed but not yet published, and reports upon which work is still in progress. A detailed list of these publications, of which the following is a summary, will be found as an appendix to this report.

Reports published during the year.

VOLUMES.

Statistical Atlas.
Employees and Wages.
Occupations at the Twelfth Census.

BULLETINS.

	Number.
Street and Electric Railways	3
Discussion of Increase of Population	4
Central Electric Light and Power Stations	5
Mineral Industries of Porto Rico	6
Estimates of Population	7
Negroes in the United States	8
Mines and Quarries	9
Quantity of Cotton Ginned in the United States (Crops of 1899 to 1903, inclusive)	10
Electric Fire Alarm and Police Patrol Systems	11
The Executive Civil Service of the United States	12
A Discussion of the Vital Statistics of the Twelfth Census	15

PHILIPPINE CENSUS BULLETINS.

	Number.
Population of the Philippines	1
The Climate of the Philippines	2
Volcanoes and Seismic Centers of the Philippine Archipelago	3

PAMPHLETS.

Statistical Treatment of Causes of Death.
Registration of Births and Deaths.
Report of the Director to the Secretary of Commerce and Labor.
Uniform Municipal Accounting.
Collaboration in Federal and State Statistical Work.
American Census Taking.

Reports in press.

VOLUMES.

Street and Electric Railways.
Mines and Quarries.
Supplementary Analysis and Discussion of Statistics of Population.
Census of the Philippines—4 volumes:

Vol. I. Introduction. Geography. History. Population. Appendices I and II.
Vol. II. Population Tables and Analysis.
Vol. III. Mortuary Statistics and Education, inclusive of schools.
Vol. IV. Agriculture. Social and Industrial Statistics.

BULLETINS.

	Number.
The Ages of the Population of the United States	13
Proportion of the Sexes in the United States	14
Irrigation in the United States, 1902	16
Telegraphs and Telephones	17

ABSTRACT OF THE TWELFTH CENSUS.

Of the Abstract, which contains in an abridged form, without text, the more important results of the Twelfth Census, three editions have been published, of 25,000, 10,000, and 31,000, respectively, making a total of 66,000 copies so far issued. The demand for this volume continues unabated, showing that it meets the requirements of the great mass of the people for census information and justifies the continuance of its distribution free of cost.

METHODS OF HANDLING PUBLICATIONS.

An earnest effort was made by my predecessor to present effective interpretation of the statistics gathered at the Twelfth Census, and to secure better presentation both in literary style and in printing and binding than had characterized much of previous census work. The time allotted for the production of the main reports was very short, but they undoubtedly marked a noteworthy advance in American Census publications. Since the establishment of the permanent Bureau much attention has been paid to the details of production. Although it gathers its own facts and prepares its own manuscript, this Bureau is in reality but a huge publishing house, for all productive work is ultimately recorded in printed pages. It is appropriate,

therefore, that the standards for statistical, literary, and mechanical presentation should be very high. Furthermore, many of those especially interested in the information secured by the Bureau are students and writers upon economic subjects, who are themselves keen critics. Therefore, in addition to collecting facts with increasing speed and accuracy, this Bureau is constantly endeavoring to improve the contents and appearance of census publications. For the expert interpretation of investigations which are in progress the assistance of scientists eminent in their respective lines is secured; but it is my policy to train such employees of the Bureau as give evidence of literary ability to themselves interpret census statistics in a scientific and effective manner.

EDITING AND PUBLISHING CENSUS RESULTS.

Two divisions have been created to handle census manuscript—that of revision and results, under the supervision of a student and scientific writer of some note, assisted by an efficient corps of editors, whose duty it is to examine all statements and to correct defects, whether in subject-matter or style; and that of publication, which has charge of all census printing, and thus of the mechanical form in which the report, bulletin, or paper is to appear. In the latter division all proof is read with great care, and finally verified in cooperation with the producing division.

The policy of the Bureau is to disregard official tradition in typographical form and in binding as far as may be necessary in securing results which accord with the best modern standards. Good taste costs no more than poor taste. The initial cost of Census volumes, the labor and skill involved in their preparation, and their permanent preservation in libraries as the statistical records of the United States, entitle them to the most dignified and tasteful presentation, in both printing and binding, consistent with economy. No reason exists why Census publications should not be given the same advantages in these particulars accorded, as a matter of course, by private publishing houses to scientific works of far less importance.

If the work of these two divisions is prosecuted in the future with the same enthusiasm and success that so far have attended it, the excellence of the literary style and of the appearance of census volumes will add materially to the reputation of the Bureau.

THE CURRENT WORK.

The additional work, in various stages of progress, which has occupied the office during the year may be briefly summarized:

REPORT ON WEALTH, DEBT, AND TAXATION.

The report upon the wealth, debt, valuation, and taxation of the United States, by States, counties, and municipalities, authorized by section 7 of the act to establish a permanent Census Office, has continued chiefly to occupy the attention of the division of agriculture, under the charge of Mr. L. G. Powers, chief statistician. The field

work for the report was completed during the month of May last. The preliminary report, covering the financial operations of the larger cities, will be ready for publication during the present calendar year.

This report is one of the most difficult and important the Census is called upon to make; and nothing heretofore attained in this field has been satisfactory. This has been due largely to the fact that the work was carried on simultaneously with the main census inquiries, and in the rush of that work could not receive the attention its technical character demanded. The postponement of this report until after the completion of the census proper was one of the wisest provisions of the act for taking the Twelfth Census; it has given the Bureau ample time and opportunity for a most complete presentation of the material resources and financial operations of the nation.

STATISTICS OF MUNICIPAL FINANCE.

The inquiry relating to municipal finance was one of the most noteworthy of the many extensions of census statistics undertaken at the Tenth Census. Since the publication of the information then secured, increased attention has been paid to this class of Federal and State statistics, popular interest has been aroused, and this has led to a general and earnest demand for improvement in methods of municipal accounting.

The earlier statistics were more or less imperfect, because there was no common classification of municipal accounts and no uniform method of municipal bookkeeping. To encourage reform the National Municipal League arranged a classification of payments and receipts and recommended its general adoption. This was done experimentally by Baltimore, Md., Cambridge, Mass., and a few small cities, before the work of the Twelfth Census began. The Bureau of the Census adopted this classification with minor changes, and, in order to secure uniformity of results, prepared instructions for rearranging local statements of accounts. These instructions and the accompanying schedules have contributed appreciably toward uniformity in classification of accounts and methods of accounting.

CONFERENCE TO SECURE UNIFORMITY IN MUNICIPAL ACCOUNTING.

While these were steps in the right direction, so much diversity still existed that the task of securing comparable statistics was exceedingly difficult, and in order to complete satisfactorily the decennial inquiry authorized by Congress, it was necessary for the Census to take the lead in a movement looking to greater uniformity in the accounting methods of municipalities. Accordingly, in response to the invitation of the Director of the Census, a conference was held in November, 1903, at Washington, attended by a number of representative auditors, comptrollers, expert accountants, and other students of municipal problems. Interest in the subject of uniformity in classification and methods of municipal accounting received a decided impetus from this conference; minutes of the meeting were published in pamphlet form, and have been in much demand. During the past year the different phases of this problem have been actively discussed at

sessions of the Commissioners on Uniform State Laws, the National Municipal League, the Congress of Public Accountants, the National Association of State Bank Supervisors, and the associations of the fiscal officers of the cities of Pennsylvania and Wisconsin. Many municipal officials have expressed a desire for a second conference under the auspices of the Bureau of the Census.

Several cities have made changes in their systems of accounting to conform wholly or in part to the classification adopted by the Bureau of the Census. Among these are New York City, St. Louis, Buffalo, Minneapolis, Atlanta, Houston, South Bend, and Lincoln. The State of Ohio has established for all its cities a uniform system of accounting in harmony with that of the Census schedules, so far as local laws permit. Cities in New York having less than 250,000 population are now required to make annual reports to the secretary of state of their payments and receipts. The State schedule prepared for this purpose is based upon that of this Bureau. Many cities have installed already, or have under consideration, improved accounting systems in harmony with the one above referred to. The representatives of this Bureau have met everywhere with the hearty cooperation of local officials.

It is probable that the annual Census reports upon municipal finance for cities of 30,000 population and over will prove the most influential factor in securing the adoption of uniform classification, thus materially lessening the cost of compiling census statistics upon this subject, increasing the accuracy of the returns, making comparison possible between the itemized expenditures of cities of the same population, and encouraging reforms in the public service.

SPECIAL INVESTIGATIONS.

As outgrowths of the financial report, two special reports have been undertaken as essential to a full valuation of property. One of these, relating to the valuation of railroad properties, properly apportioned to the several States and Territories, has been undertaken in cooperation with the Interstate Commerce Commission, which has placed at the disposal of the Census all the data in its possession gathered from the railroad corporations since the organization of the Commission. The immediate supervision of this investigation has been placed in charge of Prof. Henry C. Adams, the statistician of the Interstate Commerce Commission, and Prof. Henry Balthasar Meyer, Ph. D., of the University of Wisconsin.

The second special investigation relates to the par and market values of the negotiable securities of the country. It has been placed in the charge of Mr. Charles A. Conant, of New York City. This report will cover an entirely new field of Federal statistical investigation, although for the past ten years similar statistics for most of the European countries have been collected. Its object is to ascertain not only the present par and market value of outstanding capital stocks, bonds, and debentures of all active corporations, but also the fluctuations in the value of such securities within a series of years. The data are found in published reports of the corporations and recorded selling prices of stock exchanges.

DEFECTIVE, DEPENDENT, AND DELINQUENT CLASSES.

Another pending investigation authorized by section 7 of the census act is that relating to the defective, dependent, and delinquent classes. This inquiry has been placed under the charge of Mr. John Koren, of Boston. Mr. William A. King, chief statistician for vital statistics, has general supervision of the work. Satisfactory progress has been made, and reports are now being received from 5,441 special agents, who are the bookkeepers or wardens of the institutions under review, and who furnish transcripts of their records for a nominal compensation. The report will cover the movement of population in all these institutions for the calendar year 1904; its completion can therefore hardly be looked for during the present fiscal year.

ANNUAL MORTALITY REPORTS.

The annual reports of mortality in registration areas, authorized by section 7 of the census act, have been delayed in compilation by a defect in the statute, which fixed the compensation to be paid for the transcription of registration records at so low a figure that it proved impossible to secure a complete and satisfactory performance of the service. Congress was accordingly asked at its last session to amend the law, but the amendment did not become effective until April 27 last. This amendment permitted the Director to fix a minimum compensation of $25 for such transcriptions, and in his discretion, in other cases, to pay at the rate of 4 cents per name, instead of 2 cents, as provided in the original act. The average compensation fixed, under this amendment, does not exceed 3½ cents a name.

Further delay arose in connection with these mortality reports by reason of the fact that the force of the division was engaged in compiling the vital statistics of the Philippine Census. As soon as the latter work was completed the compilation of the mortality reports was resumed, and the statistics for the years 1900, 1901, 1902, and 1903 are now in process of compilation, and should be ready for publication during the current calendar year.

REPORTS CONCERNING BLIND, DEAF, AND DUMB.

The division of vital statistics is also engaged upon reports concerning the blind, deaf, and dumb, based upon data collected by the enumerators of the Twelfth Census. The statistical tables for these reports were completed some time ago. The preparation of the text and analysis of the tables was committed by my predecessor to Dr. Alexander Graham Bell, of Washington, and he is now engaged upon this work.

SOCIAL AND FINANCIAL STATISTICS OF CITIES.

Another investigation now in progress, authorized by section 7 of the census act and of the act of Congress approved July 1, 1898 (30 Stat. L., 546, p. 648), relates to the social and financial statistics of cities. The conditions leading to the transfer of the annual report for cities of 30,000 population and over from the Bureau of Labor to the Bureau of the Census, by the order of the Secretary of Commerce

and Labor, were explained in the last report of the Director. The census reports for cities of less than 30,000 population are decennial only; but the two inquiries are so identical in character that there is obvious advantage in making them together, and accordingly the annual canvass of the larger cities required by law was postponed last year, by order of the Secretary, and the data for the years 1903 and 1904 are now being simultaneously collected. A field force of 100 clerks and special agents was assigned to this work at different dates in the months of July and August last, and it is expected that the data will all be in the Bureau during the month of November.

SPECIAL REPORTS TO BE INCORPORATED IN QUARTO VOLUME.

A sixth report, growing out of the original plans for the Twelfth Census, contemplates a general review, analysis, and correlation of the results of that census, under the direction of Prof. W. F. Willcox, of Cornell University, formerly one of the chief statisticians of the Twelfth Census. A number of the special studies of census results produced by this division, in accordance with the original plan, have already been published in bulletin form. Others are now in the hands of the printer, and the final studies are approaching completion so rapidly that I anticipate the publication of the volume within the next six months. These supplemental reports will bring together in one quarto volume of about 1,200 pages studies on the topics of area, population, increase of population, density and distribution, sex, age, race, negro population and farming, Indian population, Mongolian population, internal migration, illiteracy, marital condition, occupations, vital statistics, birth rate, report on boundaries of accessions, methods of estimating population, methods of mechanical tabulation, and derivative tables relating to the foregoing subjects.

ELECTRICAL INDUSTRIES.

The division of manufactures, Mr. William M. Steuart, chief statistician, is engaged in completing a series of important reports upon electrical industries. These reports are four in number, and cover street and electric railways, the complete report upon which subject is in the hands of the printer; electric light and power plants, upon which a final bulletin has been published; municipal electric fire alarm and police patrol systems, already published in bulletin form; and telegraphs and telephones, upon which a bulletin is now in preparation. This series of reports is to be assembled in one quarto volume. Together they present a complete account of the remarkable development of the electrical industry in its application to public utilities. Nothing so rapid, so striking, and so revolutionary in its effects upon private manufacturing and public convenience as the application of electricity to power and heating purposes has been witnessed in industrial history. So marked are the improvements made and the new uses to which electricity is applied that changes in the statistics of these industries occur with great rapidity, and marked variations doubtless arise during the brief period that elapses between compilation and actual publication. The relation of these industries to the economic and social welfare of the country is so intimate, and is daily becoming so much more important, that I

recommend that Congress be asked to authorize new inquiries at dates five years subsequent to those covered, instead of waiting for the decennial period, as originally contemplated by the census law.

COTTON STATISTICS.

The annual canvass of the cotton ginners of the Southern States, taken for the purpose of ascertaining the size of the crop during the progress of the picking, was made last year with results highly gratifying from the point of view both of accuracy and of the promptness with which the information was given to the public. The increasing experience of the Bureau has produced such improvement in canvassing methods that preparations for this year's reports were promptly completed.

There will be six canvasses, showing the amount of cotton ginned to September 1, October 18, November 14, December 13, 1904, January 16, 1905, and the end of the season.

The number of special agents employed has been increased from 631 to 667, by the division of a number of the larger districts, thus insuring greater rapidity in gathering the data.

Although the reports of each agent show the quantity of cotton ginned to fixed dates, they are received at the Bureau at different times, depending upon the period required to complete the canvass in the respective districts. The publication of the results has been delayed heretofore until all of the returns were received, but the statistics for the crop of 1904 will be published by county totals and the results made public as rapidly as received. The individual returns will be summarized when all are received and the totals will be published as the quantity ginned to the given date in each State, in conformity with the practice followed heretofore.

It is believed that this system will result in satisfying the demand for the early publication of the data, that it will aid in avoiding the fluctuation in prices due to an anticipation or a manipulation of the facts contained in the reports, and that it will also eliminate all possibility of information being given out in advance of its publication by the Bureau.

The cost of the canvass of 1903 was $99,395, but by reason of the increased number of agents employed the cost in 1904 will be $116,400.

THE MANUFACTURING CENSUS OF 1905.

The division of manufactures is also engaged in the preliminary work of the quinquennial census of manufactures, authorized by section 8 of the census act. This preliminary work consists in the preparation of the main and supplemental schedules and the carding of the manufacturing establishments to be canvassed. The information for the latter work is obtained from the schedules returned in 1900, supplemented by State, county, and local directories. The plans of the Bureau contemplate the collection of a considerable percentage of the schedules by correspondence; and a copy of the schedule will be mailed to every manufacturer in the United States, whose existence is known, in advance of the actual canvass by districts. It is proposed in that canvass to utilize the clerical force of the Bureau as far as possible, thus avoiding the necessity of appointing untried and untrained special agents to superintend the work in the field.

COOPERATION WITH THE STATE OF MICHIGAN.

An important step in the direction of cooperation and collaboration between the Bureau of the Census and the statistical offices of the several States was taken by Congress at its last session, in the enactment of the following law approved March 1, 1904:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Director of the Census is hereby authorized and empowered to cooperate with the secretary of state of the State of Michigan in taking the census of manufactures and shall equitably share the expenses thereof, the results of which may be accepted by the United States as its census of manufactures for that State for the year nineteen hundred and five: *Provided*, That the expenditures incident to this cooperation shall not exceed twenty thousand dollars, such expenditures to be paid from the fund appropriated for the expenses of the field work of the census for the fiscal year ending June thirtieth, nineteen hundred and five. And the Director of the Census may, in his discretion, cooperate with the officials of other States which take a like census in so far as it may aid in the collection of statistics of manufactures required by existing law.

The immediate occasion for this legislation was the fact that the constitution of Michigan requires a census of population, agriculture, manufactures, and mining to be taken in the year 1904. The secretary of state of Michigan, under whose authority this census is taken, desired to cooperate with the Bureau of the Census in the manufacturing canvass, in accordance with the recommendation of the Director of the Census in his last report, in order to save the expense of what would prove to be almost a duplicate canvass but six months apart, and in order that the manufacturers of the State might not be subjected to the annoyance of making two returns. The Bureau of the Census could not, however, accept manufacturers' returns for the year 1904 as a part of its census of 1905. The Michigan official therefore appealed to Congress; and with the approval of the Secretary of Commerce and Labor and the Director of the Census the above-quoted statute was unanimously enacted.

Under this law an agreement was made with the secretary of state of Michigan whereby the manufacturing schedule of the Census Bureau was accepted for the Michigan census, and the correction and compilation of the returns were undertaken by this Bureau. Thus complete agreement between the census report and the Michigan report was assured. In consideration of the control over the form and character of the returns thus accorded the Census, the latter undertook to defray two-thirds of the expense of the field work, the State of Michigan, on the other hand, affording the Census free use of its office facilities and clerical force at the State capital. In this way the cost of the canvass is "equitably shared," and a considerable sum of money is saved to both the National and State governments.

The money saved is the least important advantage growing out of this joint canvass of the manufacturing industries of Michigan. It is the first practical step ever taken looking to the unification of the official statistics of the States and the nation, and the avoidance of the conflict and confusion which have attended their contradictory character. It must lead logically to systematic and sympathetic cooperation along similar lines in many other States, thus foreshadowing an ultimate unity and harmony in official investigations of the utmost advantage to statistical science.

The field work for the Michigan census was undertaken in the latter part of July and entirely completed by the latter part of September.

COOPERATION WITH THE STATE OF MASSACHUSETTS.

An arrangement nearly identical with that made with Michigan has already been entered into with the bureau of the statistics of labor of the State of Massachusetts for a cooperative canvass of the manufacturing industries of the State, which takes a decennial census in 1905. The saving of money by the avoidance of a double canvass will be considerably greater in this State; and the union of forces is the more gratifying and significant by reason of the fact that among the States Massachusetts has long taken the front rank in statistical investigation.

COOPERATION WITH OTHER STATES.

A number of States in which no midway census is taken maintain bureaus of statistics, well organized and equipped, which compile annual or biennial reports upon the industries and industrial conditions of the Commonwealth. These reports, while possessing much intrinsic value in many instances, have never been compiled from schedules uniform with those of the United States census, or even with those used in other States. It follows that the statistics are not comparable with those of the Federal census or with those of neighboring States. Their usefulness has therefore been greatly, and it would seem unnecessarily, circumscribed. All these periodical State reports can be made to serve as supplements to the Federal census if the returns are secured along identical lines. State reports, which are now only useful locally, would thus become of far greater value. They would measure accurately comparative growth from year to year within the State and could readily be made to possess national significance.

Acting on this theory, and so construing the authority conferred by the Michigan statute, the Director of the Census is now engaged in making arrangements with the chiefs of the bureaus of statistics in a number of these States, whereby their cooperation will be secured in the manufacturing census of 1905. Under the plan proposed the chief of the State bureau will be appointed a special agent of the Census Bureau and have charge of the canvass of a portion of his State, subject to such regulations as may be necessary to secure uniformity of method, thus giving the Census Bureau the advantage of a supervising special agent having training and experience in similar work, who is familiar with industrial conditions in the State, and who already possesses much of the machinery and organization necessary to a prompt and efficient canvass. In consideration, the chief of the State bureau agrees to accept the results of the Federal census in his State report for the current year, and not to make any additional canvass of the industries covered by the Federal census. Having once adopted the census method of presenting results, it is highly probable that the State bureaus will continue to use them in subsequent reports; and thus another gratifying advance in the movement for unification of industrial statistics will have been made.

The States in which it has been feasible to make the arrangement above described, in whole or in part, and the officials in charge of the several bureaus, are as follows:

California: W. V. Stafford, commissioner, bureau of labor statistics.
Illinois: David Ross, secretary, State bureau of labor statistics.
Indiana: Benjamin F. Johnson, chief, bureau of statistics.
Iowa: Edward D. Brigham, commissioner, bureau of labor statistics.
Kansas: W. L. A. Johnson, commissioner, bureau of labor and industry.
Massachusetts: Charles F. Pidgin, chief, bureau of statistics of labor.
Michigan: A. C. Bird, supervisor of census.
Minnesota: John O'Donnell, commissioner, bureau of labor.
Missouri: William Anderson, commissioner of labor, bureau of labor statistics and inspection.
Nebraska: Burrett Bush, deputy commissioner of labor, bureau of labor and industrial statistics.
New Hampshire: Lysander H. Carroll, commissioner, bureau of labor.
New Jersey: Winton C. Garrison, chief, bureau of statistics of labor and industries.
New York: A. F. Weber, chief statistician, department of labor, bureau of statistics.
North Carolina: Henry B. Varner, commissioner, bureau of labor and printing.
Wisconsin: Halford Erickson, commissioner, bureau of labor and industrial statistics.

COOPERATION IN TAKING THE CENSUS OF POPULATION.

This movement for cooperation in the compilation of industrial statistics suggests the advantages which would result from a similar cooperation between the several States and the Census Bureau in taking the census of population.

In 24 States and Territories of the Union there is a constitutional or statutory requirement for a decennial census of population. Of this number, 13—Florida, Iowa, Kansas, Massachusetts, Michigan, Minnesota, New Jersey, New York, Oregon, Rhode Island, South Dakota, Utah, and Wisconsin—took a population census between 1890 and 1895. These States contained, in 1900, 23,950,628 inhabitants, or 31.52 per cent of the total population of continental United States. The remaining 11—Alabama, California, Colorado, Idaho, Mississippi, Montana, Nebraska, Nevada, Oklahoma, South Carolina, and Wyoming—do not comply with their legal requirement for enumeration. These States contained, in 1900, 8,749,634 inhabitants, forming 11.51 per cent of the total population. The 24 States and Territories above named contained, in 1900, 32,700,262 inhabitants, thus comprising 43.03 per cent of the total population of the United States. The 11 States and Territories having unobserved laws for decennial enumeration and the 28 without such legal requirement prefer to rely wholly upon the Federal census rather than to incur the expense of taking a midway census of their own.

That the rapid social evolution and complex growth of the United States call for a census of population more frequently than once in ten years is a proposition generally admitted by economic and sociological experts. Provision for five-year enumerations has already been made by some countries of Europe, notably France and Germany, and there is a thoroughly organized movement to secure a quinquennial census of Great Britain. In May last a deputation representing the Royal Statistical Society, the Royal Institute of Actuaries, the Sanitary Institute, the Society of Medical Officers of Health, and other similar organizations appeared before the local

Government board to urge action looking to a quinquennial census of England and Ireland in 1906. Reference was made at the hearing to the recent establishment of a permanent Census Bureau in the United States as an example Great Britain should follow, and as the necessary preliminary to a more frequent census of the population. It was pointed out that at the census of 1891 there was a discrepancy of 701,843 between the estimated and enumerated population, while at the census of 1901 a difference of 142,000 occurred in the opposite direction. These discrepancies were especially marked in certain localities. For example, in 1901 the registrar-general's estimate of the population of West Ham was 58,278 in excess of the actual figures, causing an error of 3.5 per 1,000 in the estimated death rate. In Liverpool the registrar-general, in 1891, overestimated the population by 100,000, and in 1901 underestimated it by 50,000.

As stated by Sir Robert Giffen, the actual number of the population is the dominant factor governing every statistical investigation into the condition of national health, wealth, and well-being. The only objection raised in England to a quinquennial census of population is that of the expense involved. It is proposed to reduce this expense to a minimum by restricting the intermediate census to the simplest schedule, relating to age, sex, and the distribution of the people. One of its chief advantages would be the check it would afford upon the accuracy of the decennial census.

COOPERATION AUTHORIZED BY CONGRESS IN 1879.

The objection based upon cost is more valid in the United States than in Great Britain, and the obvious way to meet it in the United States is through the cooperation of the States. A carefully devised plan to secure such cooperation was incorporated in the act for taking the Tenth and subsequent censuses, approved March 3, 1879. The plan was suggested by Hon. Francis A. Walker, Superintendent of the Ninth and Tenth censuses, and the closest student of census problems we have had in this country. This plan was embodied in section 22 of that act, which read as follows:

> That if any State or Territory, through its duly appointed officers or agents, shall, during the two months beginning on the first Monday of June of the year which is the mean between the decennial censuses of the United States is by this act directed to be taken, take and complete a census in all respects according to the schedules and forms of enumeration in the census of the United States and shall deposit with the Secretary of the Interior, on or before the first of September following, a full and authentic copy of all schedules returned and reports made by the officers and agents charged with such enumeration, then the Secretary of the Treasury shall, upon receiving a certificate from the Secretary of the Interior, that such schedules and reports have been duly deposited, pay, on the requisition of the governor of such State or Territory, out of any funds in the Treasury not otherwise appropriated, a sum equal to fifty per centum of the amount which was paid to all supervisors and actual enumerators within such State or Territory at the United States census next preceding, increased by one-half the percentage of gain in population in such State or Territory between the two United States censuses next preceding: *Provided*, That the blank schedules used for the purposes of the enumeration herein provided for shall be similar in all respects of form and size of heading and ruling to those used in the census of the United States.

Under this provision the Federal Government was to pay practically one-half the cost of the quinquennial enumeration of each State taking a census, thus securing all the advantages of an enumeration

on lines exactly parallel to its own decennial census. Several States took advantage of the provision, sent forward to Washington copies of their schedules, and received their money for them. These returns were stored away in the Department of the Interior, and no use was ever made of them. The fatal obstacle to the success of General Walker's plan was the fact that there existed no permanent census bureau to handle the returns as received. That obstacle is now removed. By the reenactment of section 22 of the act of 1879 the United States can obtain, for one-half the actual cost of the work, a census of a large number of the States at the midway periods. The number of States will be sufficiently large to permit an accurate estimate of population for the remainder, and if this provision of law, so advantageous to the States, should be reenacted, there undoubtedly will be a rapid increase in the number of States and Territories taking an intermediate census. It is even possible that eventually all would participate in a work so essential to each.

It would be especially appropriate to reenact the law of 1879 at the present tme, for this law may be called the forerunner of the various lines of cooperation between the Federal census and State and municipal officials described elsewhere in this report.

A bill to reenact section 22 of the act of 1879 was introduced at the last session of Congress by Mr. Crumpacker, of Indiana, chairman of the House Census Committee. I earnestly urge that you recommend favorable action upon this measure. If it can be passed at an early period in the approaching session of Congress it will undoubtedly lead to legislation in some States for a cooperative population census in 1905.

ESTIMATES OF POPULATION.

As announced in the last report of the Director, the Census Bureau has undertaken, both in response to a popular demand and to meet the requirements of its own work, to prepare and publish estimates of population in intercensal years for cities and towns of 8,000 population and upward and for the several States and the entire country. The bulletin containing these estimates for the years 1901, 1902, and 1903 was published in April, 1904. The estimates were made in accordance with the uniform plan described in detail in the bulletin.

The constant demand for this bulletin from all parts of the country proves that its publication has met a definite and intelligent popular requirement. It is surprising to find in how many lines of business there is need for estimates of this character. But their chief usefulness is in determining the death rates of municipalities; and it is cause for comment that these death rates have been so long computed in this country on the basis of local estimates of population, in the calculation of which no uniform method has obtained, making it inevitable that no accurate comparison is possible between the death rates of different cities, except in the census years, when all local ratios are supposed to be corrected on the basis of the enumeration.

The science of sanitary statistics is still in its infancy in the United States, and it is in the further development of this science that the permanent Census Bureau is destined to perform its most important service to the public. Estimates of population for municipalities have been officially made in Great Britain for a long period, and the closest attention is paid to them in all matters that have to do with

sanitation and the promotion of the public health. But, as stated above, these official estimates of population are sometimes found to be grossly in error, resulting in most misleading conclusions. Similar errors will be inevitable in the population estimates of the Census Bureau; indeed, they should naturally be even greater and more frequent than has been the case in England, for our population is much more mobile, and the growth of our cities is influenced by many conditions which do not prevail in older countries, and which can not be measured by any uniform rule based upon the ratio of annual growth in the previous decade. The danger of inaccuracy increases rapidly as the distance from a decennial census increases, and conditions undoubtedly prevail in many western cities where it will be better not to attempt to compute the rate of growth for a period beyond five years, when there is no intermediate State census by which to correct the estimates. These considerations emphasize the necessity of such censuses, and reenforce the argument in favor of the plan for taking them by cooperation between the Federal and State governments.

REASONS FOR THE METHOD OF ESTIMATING POPULATION ADOPTED BY THE BUREAU.

Considerable criticism of the Census population estimates has been aroused in certain cities which, for various reasons and on evidence more or less satisfactory, believe that they are growing more rapidly than the normal rates as ascertained by the Census methods.[a]

[a] Inasmuch as it is proposed to continue to make these estimates, the Director made a general reply to these criticisms in a letter addressed to the Secretary of Commerce and Labor on May 19, 1904, which follows:

"You have called my attention to certain comments and criticisms upon the estimates of population published in a bulletin recently issued by the Bureau of the Census. I am glad of the opportunity to reply to them in one general statement. It is worth attention that these criticisms are much fewer in number and much less violent in tone than the complaints which attended the actual enumeration of population at the Twelfth Census, and also that they come, as a rule, from the same localities. It is apparent, moreover, that they are written by persons who had not read and digested the text which accompanies the estimates and fully explains the purpose and the method of making them and the limitations surrounding them. In all quarters where these are understood the bulletin has met with high commendation as supplying information of great interest and value obtained by the application of a carefully considered scientific method for projecting the census into intercensal years.

"Population estimates for intercensal years are demanded by the current work of the Census Bureau; they are equally necessary in the annual mortality reports of our great municipalities, in the calculations and tabular presentations of the Treasury Department, and in many other directions that at once suggest themselves. Heretofore these estimates have been made by local authorities; and since the methods followed differed widely in different localities, the results possessed no uniformity, and thus lacked the first requisite of comparable statistics. This deplorable condition was probably unavoidable so long as there was no permanent Census Bureau. Now that such a bureau exists, it would seem that one of its first duties is to establish a definite, uniform rule for projecting population beyond the date of the latest census, and to make the computations for the public use. Nothing more important in the direction of standardizing official statistics has yet been done, in my judgment. The Comptroller of the Treasury has recognized the value of the service of the Census by utilizing its population estimates in determining whether certain localities are entitled to national-bank charters under the provisions of law; and it is hoped that all Government officials who have occasion to use population estimates in their work will also make use of them.

The Bureau will so far recognize the justice of these criticisms as to omit the estimates for any city, in future publications, upon receipt of a formal request from the mayor, and provided the city in question is not a city in which registration of deaths is made. In all such cities the estimates must continue to be made and published in connection with the annual report on vital statistics.

COMPARISON OF RETURNS OF MICHIGAN POPULATION CENSUS WITH ESTIMATES OF THE BUREAU OF THE CENSUS.

The Michigan State census of 1904 is the first opportunity which has occurred for testing the value of the Census Bureau method of estimating the population. This census showed 28 cities in that State to have 827,294 inhabitants; as estimated by the Census Bureau these cities contain 824,310, a difference of 2,984 inhabitants, the State census exceeding the estimated population less than one-half of 1 per cent. The total population reported by the State census was 2,530,016; as estimated by the Census Bureau, 2,546,258. The estimate for the entire State therefore exceeds the exact figures by 16,242, or six-tenths of 1 per cent. These general figures clearly illustrate how closely the results of the Census Bureau method of estimating approximate to actual enumeration in States showing normal conditions, as in the case of Michigan. The population of Detroit, the largest city in Michigan, was estimated by this Bureau to be 317,636 in 1904; the actual population returned by the census is 317,591. In this noteworthy case there was a difference of only 45, or less than

---

"These estimates are not in any sense a census, nor are they based upon an investigation of the peculiar local conditions which may affect individual cases. This fact is an answer to the criticisms coming from cities which adduce various reasons for asserting that their rate of growth in population since 1900 has been in excess of that indicated. Each estimate rests upon an hypothesis sufficiently accurate for most statistical purposes—the hypothesis that the annual increase of population since 1900 is one-tenth of the total increase from 1890 to 1900, as established by census enumerations. In only one class of cases has the Census deviated from a strict adherence to this hypothesis and endeavored to make allowance for disturbing local factors. These are the cases in which growth has been affected by annexations of new territory, either before or since the census of 1900. Where such annexations have occurred, their effect upon the population has been carefully calculated, after correspondence with the local authorities, city engineers, mayors, assessors, etc.

"In all well-settled communities the hypothesis is found to come remarkably close to the actual fact, when tested by similar computations based upon the growth in previous census decades. For such communities the estimates can safely be accepted in preference to calculations based upon directory canvasses, school canvasses, increase of post-office business, or ballots cast at elections. Experience almost invariably demonstrates that these methods of determining population are fallacious and unreliable.

"Estimates of the population of the large cities of the United States in 1900, made by this method on the basis of the census results in 1880 and 1890, show that the probable error of the method is 6 per cent; that is, in half the cities the estimates for a date ten years after the last census were within 6 per cent of the truth.

"The usual English method, that of assuming that the percentage of increase, instead of the amount, remains constant from decade to decade, or from year to year, gives for American cities a probable error of 18 per cent, showing clearly that this method, however applicable in Great Britain, does not apply to present American conditions.

"A common American method, that of multiplying the number of votes cast in a Presidential election by an assumed ratio of that number to population, when tested, shows a probable error of 12 per cent. Estimates based upon accurate

one-tenth of 1 per cent, between the estimated and the actual enumeration. For some of the other cities of the State greater variation occurred, owing to local conditions. For cities growing more rapidly than at the normal rate, such as Kalamazoo, Lansing, Marquette, and Saginaw, the estimates resulted in a lower figure than the actual population as returned at the State census, the difference being more than 10 per cent; while in other cities growing less rapidly than at the normal rate, such as Ann Arbor, Iron Mountain, Ishpeming, Manistee, and Menominee, the Census estimates exceeded the State census returns more than 10 per cent. For the 28 cities referred to, this Bureau overestimated the population of 16 and underestimated that of 12. The greatest increase over the Census estimate appears in the city of Saginaw, due to the decrease in population from 1890 to 1900 and to the increase which has subsequently occurred. Such a condition, however, is clearly exceptional, but Census Bulletin 7, Estimates of Population, calls attention with considerable emphasis to the fact that there will always be many individual cases where the estimates will be far from correct, owing to exceptional changes in municipal growth. In general, the larger the area the more likely to be correct is the method of estimating adopted by the Bureau of the Census.

INCREASING EFFICIENCY OF EMPLOYEES.

The importance of training as a factor in connection with the preparation of special reports and the Thirteenth Census was one of the

---

city censuses of school children show a probable error of 6 per cent. But such censuses in American cities are often carelessly taken and extremely inaccurate. Estimates based upon multiplying the number of names in a city directory by some assumed ratio show a probable error of 13 per cent, and in every one of the cases tested the population as thus estimated was found to be too large. No one of the alternative methods, therefore, is as accurate for American cities, under present conditions, as the method we have employed.

"For cities which have recently entered upon a period of exceptional growth produced by the influx of new settlers in great numbers, and which may be said not to have been fairly born when the census of 1890 was taken, the estimates of the census on the basis indicated will undoubtedly prove too small. This fact was frankly admitted in Bulletin No. 7; and a caution was added against any false conceptions in consequence of rigid adherence to the rule of estimating. Several cities from which complaints have been received are undoubtedly within this category, and they should find whatever solace is necessary for their wounded municipal pride in this admission of the fallibility of the rule in exceptional cases, which is found on page 4 of the census bulletin.

"In several cases the suggestion is made that the Census should have sent its agents to the locality, and satisfied itself by actual examination that the rate of growth in population is greater than that arrived at by the arithmetical calculation. Such a course was impossible, for reasons that seem to me obvious. As already stated, this office was not taking a census, or anything akin to a census. If, as a result of superficial investigations, unsupported by an actual enumeration, the Bureau had undertaken to publish estimates of population for particular cities larger than those reached by its established rule, then indeed it would have deliberately invited endless criticism. For then it would have substituted sheer guessing for estimates based upon actual enumerations and obtained by a uniform method; wherever it failed to report a population as large as the local expectation, it would have been denounced; wherever it increased the estimates over the population arrived at by the calculation, it would have laid itself open to the criticism that it was favoring certain communities at the expense of others. In the absolute impartiality with which the rule was applied lay the only possible safety for the Census Bureau. It can command respect by consistency, even when it knows that consistency involves a certain element of

reasons which led to the establishment of the permanent Census Bureau. Therefore it is especially agreeable to be able to report to you that the clerks and officials of this Bureau, as they grow more proficient, are becoming individually more interested in the lines of work under investigation, are showing greater adaptability for assignment to different inquiries, and promise to become an exceptionally efficient force. It is my policy to transfer clerks in large numbers from one division to another as the pressure of work demands. Incidentally this policy has increased greatly the familiarity of the clerks in the Bureau with different classes of work. As many male clerks are assigned to field work as can be spared from duty in the office; thus a considerable proportion of the employees of the Bureau are constantly dealing directly with the business and professional classes in different communities. This policy enables many of the employees of the Bureau to obtain practical experience in the first step of census work, in addition to the knowledge which they already possess of Census Bureau routine.

The lack of expert assistance in training and directing clerks in this office was recognized by Congress at the last session, and the number of expert chiefs of division was increased from 4 to 8. A list of the officials in the Bureau of the Census and the number of clerks and employees, by different grades, will be found in Appendix B.

Respectfully,

S. N. D. NORTH, *Director.*

Hon. VICTOR H. METCALF,
Secretary of Commerce and Labor.

---

error. It will lose public confidence when it attempts to arbitrate upon the claims of local directory makers and real estate agents.

"By applying a uniform rule, admitting its defects in certain circumstances, the Census deprives any city of the right to make complaint against it for unfairness or partiality; and all cities can make use of the estimates for the purpose of computing statistical rates in mortality and other municipal reports, with the certainty that these rates will be sufficiently accurate to answer the purposes for which they are ordinarily required.

"In many of the States of the Union intercensal censuses will be taken next year; and the returns of these enumerations will be utilized by this office in correcting its estimates for future years. But the office can not accept the result of local censuses, however taken, as a basis for modifying its estimates, and for the very good reason that these local censuses are almost invariably found to be grossly incorrect when checked up by a national census.

"Turning now to the general results of the census method of projecting the population, as applied to the entire country, I call your attention to the remarkable accuracy that attends the computation when it concerns conditions which can not be affected by local influences and variants. The estimated population of continental United States for 1900, as determined by this method on the basis of the increase from 1880 to 1890, was 75,414,181, while the actual population as returned by the census of 1900 was 75,994,575. In other words, the actual population was 580,394 in excess of the estimate, showing the latter to be in error by three-fourths of 1 per cent. How far this negligible error is due to the influence of immigration can not be determined.

"If we project the population of continental United States for the entire decade in which we are now living, by the census method, we reach the conclusion that the Thirteenth Census, in 1910, will show a population in the neighborhood of 89,041,436. This indicates a percentage of increase of 17.2, as compared with 20.7 in the decade of 1890–1900. Events are possible in the future development of the country which will put this estimate awry from the actual census of 1910. Such a possibility exists under every method of estimating.

"Very respectfully,

"S. N. D. NORTH,
"*Director.*"

APPENDIX A.

REPORT OF JOHN W. LANGLEY, DISBURSING CLERK OF THE BUREAU OF THE CENSUS.

For the fiscal year ended June 30, 1904.

1. *Appropriations, disbursements, unexpended balance, and outstanding liabilities for the fiscal year ended June 30, 1904.*

	Amount appropriated.	Amount disbursed.[a]	Amount unexpended.	Amount of outstanding liabilities.
Total	$1,322,247.14	$1,129,192.88	$193,054.26	$32,196.81
Salaries	685,860.00	634,457.06	51,402.94	518.79
Special agents	160,000.00	159,242.43	757.57	757.57
Rent	26,600.00	24,383.33	2,216.67	2,216.67
Stationery	10,000.00	3,494.93	6,505.07	5,818.91
Library	5,000.00	4,871.92	128.08	128.08
Transcript of registration records	14,000.00	5,353.04	8,646.96	3,556.96
Rent of tabulating machines	10,000.00	10,000.00		
Miscellaneous expenses	15,000.00	14,988.39	11.61	11.61
Expenses of the Twelfth Census	395,787.14	272,401.78	123,385.36	19,193.22

[a] Including payments by the Auditor for the State and other Departments from the appropriations:

Special agents, Census Office, 1904	$6,118.11
Miscellaneous expenses, Census Office, 1904	88.95
Expenses of the Twelfth Census	1,678.45
Excluding disallowances from the appropriations:	
Special agents, Census Office, 1904	45.99
Expenses of the Twelfth Census	48.09

2. *Unexpended balance of the appropriation made for the expenses of the Twelfth Census reappropriated March 3, 1903.*

(1)	The unexpended balance as shown by the report of the Director of the Census to the Secretary of the Interior, July 15, 1903	$462,753.94
(2)	Disallowances, year 1903, collected and credited	735.65
		463,489.59
(3)	Less supplemental accounts paid for the fiscal year 1903	68,010.45
		395,479.14
(4)	Receipts during the year 1904, from the sale of transcripts of census records	308.00
	Total amount of the unexpended balance available for the fiscal year 1904	395,787.14

3. *Expenditures, including outstanding liabilities, for the fiscal year 1904, chargeable against the unexpended balance of the appropriation for the expenses of the Twelfth Census.*

Amounts (including outstanding liabilities) for current expenses of the office (other than for the Philippine Census) after the specific appropriations provided in the legislative act for the purposes indicated were exhausted:		
Special agents, Census Office, 1904	$87,942.42	
Miscellaneous expenses, Census Office, 1904	14,467.90	
Library, Census Office, 1904	493.40	
		$102,903.72
Amount of that portion of the Philippine Census paid from this unexpended balance		167,675.18
Amount of settlements made by the Auditor for the State and other Departments		1,678.45
Amount of miscellaneous expenses		19,337.65
		291,595.00
Amount of the unexpended balance available for the fiscal year 1905		104,192.14

4. *Approximate cost of the tabulation and compilation of the census of the Philippines to June 30, 1904.*

Expended from unexpended balance of Twelfth Census appropriation		$167,675.18
Expended from specific appropriations for 1904:		
Approximate cost of clerical labor	$31,742.64	
Cost of printing	11,750.13	
Miscellaneous	2,949.63	
		46,442.40
Total		214,117.58

APPENDIX B.

Clerical and field force.

Chief clerk	Edward McCauley.	
Disbursing and appointment clerk	John W. Langley.	
Chief statisticians:		
Population	William C. Hunt.	
Manufactures	William M. Steuart.	
Agriculture	Le Grand Powers.	
Vital statistics	William A. King.	
Geographer	Charles S. Sloane.	
Expert chiefs of division:		
Director's office	Leon B. Leavitt.	
Population	William H. Jarvis. Edward W. Koch.	
Manufactures	Joseph D. Lewis.	
Agriculture	Hart Momsen.	
Vital statistics	Richard C. Lappin.	
Revision and results	Joseph A. Hill.	
Publication	William S. Rossiter.	
Total		15
Stenographer	1	
Clerks class 4	4	
Clerks class 3	7	
Clerks class 2	16	
Clerks class 1	312	
Clerks $1,000	212	
Clerks $900	37	
Expert map mounter	1	
Engineer	1	
Electrician	1	
Skilled laborers $1,000	3	
Skilled laborers $900	5	
Skilled laborers $840	2	
Firemen	2	
Messengers	6	
Assistant messengers	13	
Unskilled laborers $720	19	
Unskilled laborers $660	2	
Watchmen	10	
Charwomen	43	
		697
Total		712

Temporary force (Philippine Census).

Translator $3,000	1	
Clerks class 1	1	
Clerks $1,000	3	
Clerks $900	9	
Charwomen	3	
		17
Total		729

Special agents.

Regular field work	27	
Cotton crop agents	667	
Expert special agents, special classes, and vital statistics	2	
Expert special agents in railroad valuation	11	
Chemical expert	1	
Electrical expert	1	
Special agents for special classes	5,451	
		6,160
Total		6,889

APPENDIX C.

SUMMARY OF CONTENTS OF VOLUMES PUBLISHED DURING THE PAST YEAR.

STATISTICAL ATLAS (SECOND EDITION).

207 plates. Edition, 15,000 copies.

Illustrating statistics of population, vital statistics, agriculture, and manufactures.

EMPLOYEES AND WAGES.

1,344 pages. Edition, 7,000 copies.

Comprising rates of wages and amounts earned for males and females, for specified periods, in typical manufacturing establishments in various lines of industry and in all sections of the United States.

OCCUPATION AT TWELFTH CENSUS.

1,029 pages. 34 diagrams. Edition, 7,000 copies.

A detailed classification of occupations for males and females by general nativity, color, age periods, parentage, conjugal condition, and months unemployed.

BULLETINS.

No. 3.—*Street and Electric Railways.* (193 pages. Edition 8,000 copies.) Preliminary report on equipment, cost of construction, expenses, income, wages, wage-earners, and operations for year.

No. 4.—*Discussion of Increase of Population.* (63 pages. 10 maps and diagrams. Edition, 8,500 copies.) Discussion of increase of population for the United States and outlying districts, by geographic and physiographic divisions, States and Territories, counties, cities, and country districts.

No. 5.—*Central Electric Light and Power Stations.* (59 pages. Edition, 10,000 copies.) Detailed statistics of equipment, cost of construction, expenses, income, wages, and wage-earners.

No. 6.—*Mineral Industries of Porto Rico.* (18 pages. 7 maps and illustrations. Edition, 6,000 copies.) Historical, descriptive, and statistical.

No. 7.—*Estimates of Population.* (21 pages. Edition, 10,000 copies.) Method and result of estimating the population of the larger cities of the United States in 1901, 1902, 1903.

No. 8.—*Negroes in the United States.* (333 pages. 14 maps and diagrams. Edition, 8,000 copies.) Analysis of negro population and the negro as a farmer, with general tables.

No. 9.—*Mines and Quarries.* (59 pages. Edition, 13,000 copies.) Preliminary report on mines and quarries, presenting statistics for all mines and quarries, and petroleum and gas wells, with such manufacturing operations as were carried on in immediate connection therewith, for year ending December 31, 1902. Statistics confined to operations at mine, quarry, or well.

No. 10.—*Quantity of Cotton Ginned in the United States (crops of 1899 to 1903, inclusive).* (56 pages. 13 maps. Edition, 40,000 copies.) Statistics for cotton crop of 1903, with comparative statistics for 1902, 1901, 1900, and 1899.

Special features: Cotton reclaimed by thrashing cotton bolls; estimate of cotton destroyed by the boll weevil; and distribution by States of the quantity of linter cotton saved by the cottonseed-oil mills from reginning seed of the crop of 1903.

No. 11.—*Municipal Electric Fire Alarm and Police Patrol Systems.* (33 pages. 2 illustrations. Edition, 7,000 copies.) Containing a historical and descriptive account of these systems with detailed statistics of construction and equipment.

No. 12.—*The Executive Civil Service of the United States.* (239 pages. Edition, 15,000 copies.) Detailed statistics of nativity, age, sex, service, salary, occupation, and location of the employees in the civil service of the United States.

No. 15.—*A Discussion of the Vital Statistics of the Twelfth Census.* (24 pages. Edition, 8,000 copies.) Supplemental and comparative statistics.

PHILIPPINE CENSUS BULLETINS.

No. 1.—*Population of the Philippines.* (100 pages. Edition, 35,000 copies.) Population by islands, provinces, municipalities, and barrios, 1903.

No. 2.—*Climate of the Philippines.* (103 pages. 29 maps and diagrams. Edition, 15,000 copies.) Description of islands, the temperature, water vapor, and movements of the atmosphere.

No. 3.—*Volcanoes and Seismic Centers of the Philippine Archipelago.* (80 pages. 17 maps and outlines. Edition, 15,000 copies.) Containing an account of the volcanic nature, the historical geology, and the earthquakes of the archipelago, with description of principal volcanoes and seismic centers.

PAMPHLETS.

Statistical Treatment of Causes of Death.—(19 pages. Edition, 1,000 copies.) Plan proposed by the Committee on Demography of the American Public Health Association in cooperation with the Census Bureau, relative to the treatment of jointly returned causes of death, and the revision of the international classification.

Registration of Births and Deaths.—(32 pages. Edition, 1,000 copies.) Draft of laws and forms of certificates for the registration of births and deaths, approved by cooperating committees, the Surgeon-General of the United States Public Health and Marine-Hospital Service, and the Director of the Census, with list of pamphlets on vital statistics issued by the Census Bureau.

Report of the Director to the Secretary of Commerce and Labor.—(27 pages. Edition, 2,500 copies.) A report of the progress of census work in the interval between report to Secretary of the Interior, June 30, 1903, when this office was incorporated in the Department of Commerce and Labor, and this date, October 28, 1903, with an outline of plans for the future, and certain recommendations and suggestions regarding the proper field and function of the permanent Census Bureau.

Uniform Municipal Accounting.—(89 pages. Edition, 1,000 copies.) Minutes of a conference on uniform municipal accounting held in the city of Washington, November 19 and 20, 1903, under the auspicies of the United States Bureau of the Census.

Collaboration in Federal and State Statistical Work.—(73 pages. Edition, 500 copies.) Report of the permanent committee on uniformity of schedule and cooperative work in the census of manufactures, 1905, for the twentieth annual convention of the commissioners of State labor bureaus, Concord, N. H., July 12, 1904, showing difference between census manufacturing schedule and State schedules.

American Census Taking.—(34 pages. 11 illustrations and diagrams. Edition, 50,000 copies.) Published for distribution at the Louisiana Purchase Exposition. History of American census taking and description of mechanical devices used, with plans for future census work and summary of census publications.

REPORT

OF THE

SUPERINTENDENT COAST AND GEODETIC SURVEY

sanitation and the promotion of the public health. But, as stated above, these official estimates of population are sometimes found to be grossly in error, resulting in most misleading conclusions. Similar errors will be inevitable in the population estimates of the Census Bureau; indeed, they should naturally be even greater and more frequent than has been the case in England, for our population is much more mobile, and the growth of our cities is influenced by many conditions which do not prevail in older countries, and which can not be measured by any uniform rule based upon the ratio of annual growth in the previous decade. The danger of inaccuracy increases rapidly as the distance from a decennial census increases, and conditions undoubtedly prevail in many western cities where it will be better not to attempt to compute the rate of growth for a period beyond five years, when there is no intermediate State census by which to correct the estimates. These considerations emphasize the necessity of such censuses, and reenforce the argument in favor of the plan for taking them by cooperation between the Federal and State governments.

REASONS FOR THE METHOD OF ESTIMATING POPULATION ADOPTED BY THE BUREAU.

Considerable criticism of the Census population estimates has been aroused in certain cities which, for various reasons and on evidence more or less satisfactory, believe that they are growing more rapidly than the normal rates as ascertained by the Census methods.[a]

[a] Inasmuch as it is proposed to continue to make these estimates, the Director made a general reply to these criticisms in a letter addressed to the Secretary of Commerce and Labor on May 19, 1904, which follows:

"You have called my attention to certain comments and criticisms upon the estimates of population published in a bulletin recently issued by the Bureau of the Census. I am glad of the opportunity to reply to them in one general statement. It is worth attention that these criticisms are much fewer in number and much less violent in tone than the complaints which attended the actual enumeration of population at the Twelfth Census, and also that they come, as a rule, from the same localities. It is apparent, moreover, that they are written by persons who had not read and digested the text which accompanies the estimates and fully explains the purpose and the method of making them and the limitations surrounding them. In all quarters where these are understood the bulletin has met with high commendation as supplying information of great interest and value obtained by the application of a carefully considered scientific method for projecting the census into intercensal years.

"Population estimates for intercensal years are demanded by the current work of the Census Bureau; they are equally necessary in the annual mortality reports of our great municipalities, in the calculations and tabular presentations of the Treasury Department, and in many other directions that at once suggest themselves. Heretofore these estimates have been made by local authorities; and since the methods followed differed widely in different localities, the results possessed no uniformity, and thus lacked the first requisite of comparable statistics. This deplorable condition was probably unavoidable so long as there was no permanent Census Bureau. Now that such a bureau exists, it would seem that one of its first duties is to establish a definite, uniform rule for projecting population beyond the date of the latest census, and to make the computations for the public use. Nothing more important in the direction of standardizing official statistics has yet been done, in my judgment. The Comptroller of the Treasury has recognized the value of the service of the Census by utilizing its population estimates in determining whether certain localities are entitled to national-bank charters under the provisions of law; and it is hoped that all Government officials who have occasion to use population estimates in their work will also make use of them.

The Bureau will so far recognize the justice of these criticisms as to omit the estimates for any city, in future publications, upon receipt of a formal request from the mayor, and provided the city in question is not a city in which registration of deaths is made. In all such cities the estimates must continue to be made and published in connection with the annual report on vital statistics.

COMPARISON OF RETURNS OF MICHIGAN POPULATION CENSUS WITH ESTIMATES OF THE BUREAU OF THE CENSUS.

The Michigan State census of 1904 is the first opportunity which has occurred for testing the value of the Census Bureau method of estimating the population. This census showed 28 cities in that State to have 827,294 inhabitants; as estimated by the Census Bureau these cities contain 824,310, a difference of 2,984 inhabitants, the State census exceeding the estimated population less than one-half of 1 per cent. The total population reported by the State census was 2,530,016; as estimated by the Census Bureau, 2,546,258. The estimate for the entire State therefore exceeds the exact figures by 16,242, or six-tenths of 1 per cent. These general figures clearly illustrate how closely the results of the Census Bureau method of estimating approximate to actual enumeration in States showing normal conditions, as in the case of Michigan. The population of Detroit, the largest city in Michigan, was estimated by this Bureau to be 317,636 in 1904; the actual population returned by the census is 317,591. In this noteworthy case there was a difference of only 45, or less than

---

"These estimates are not in any sense a census, nor are they based upon an investigation of the peculiar local conditions which may affect individual cases. This fact is an answer to the criticisms coming from cities which adduce various reasons for asserting that their rate of growth in population since 1900 has been in excess of that indicated. Each estimate rests upon an hypothesis sufficiently accurate for most statistical purposes—the hypothesis that the annual increase of population since 1900 is one-tenth of the total increase from 1890 to 1900, as established by census enumerations. In only one class of cases has the Census deviated from a strict adherence to this hypothesis and endeavored to make allowance for disturbing local factors. These are the cases in which growth has been affected by annexations of new territory, either before or since the census of 1900. Where such annexations have occurred, their effect upon the population has been carefully calculated, after correspondence with the local authorities, city engineers, mayors, assessors, etc.

"In all well-settled communities the hypothesis is found to come remarkably close to the actual fact, when tested by similar computations based upon the growth in previous census decades. For such communities the estimates can safely be accepted in preference to calculations based upon directory canvasses, school canvasses, increase of post-office business, or ballots cast at elections. Experience almost invariably demonstrates that these methods of determining population are fallacious and unreliable.

"Estimates of the population of the large cities of the United States in 1900, made by this method on the basis of the census results in 1880 and 1890, show that the probable error of the method is 6 per cent; that is, in half the cities the estimates for a date ten years after the last census were within 6 per cent of the truth.

"The usual English method, that of assuming that the percentage of increase, instead of the amount, remains constant from decade to decade, or from year to year, gives for American cities a probable error of 18 per cent, showing clearly that this method, however applicable in Great Britain, does not apply to present American conditions.

"A common American method, that of multiplying the number of votes cast in a Presidential election by an assumed ratio of that number to population, when tested, shows a probable error of 12 per cent. Estimates based upon accurate

one-tenth of 1 per cent, between the estimated and the actual enumeration. For some of the other cities of the State greater variation occurred, owing to local conditions. For cities growing more rapidly than at the normal rate, such as Kalamazoo, Lansing, Marquette, and Saginaw, the estimates resulted in a lower figure than the actual population as returned at the State census, the difference being more than 10 per cent; while in other cities growing less rapidly than at the normal rate, such as Ann Arbor, Iron Mountain, Ishpeming, Manistee, and Menominee, the Census estimates exceeded the State census returns more than 10 per cent. For the 28 cities referred to, this Bureau overestimated the population of 16 and underestimated that of 12. The greatest increase over the Census estimate appears in the city of Saginaw, due to the decrease in population from 1890 to 1900 and to the increase which has subsequently occurred. Such a condition, however, is clearly exceptional, but Census Bulletin 7, Estimates of Population, calls attention with considerable emphasis to the fact that there will always be many individual cases where the estimates will be far from correct, owing to exceptional changes in municipal growth. In general, the larger the area the more likely to be correct is the method of estimating adopted by the Bureau of the Census.

INCREASING EFFICIENCY OF EMPLOYEES.

The importance of training as a factor in connection with the preparation of special reports and the Thirteenth Census was one of the

---

city censuses of school children show a probable error of 6 per cent. But such censuses in American cities are often carelessly taken and extremely inaccurate. Estimates based upon multiplying the number of names in a city directory by some assumed ratio show a probable error of 13 per cent, and in every one of the cases tested the population as thus estimated was found to be too large. No one of the alternative methods, therefore, is as accurate for American cities, under present conditions, as the method we have employed.

"For cities which have recently entered upon a period of exceptional growth produced by the influx of new settlers in great numbers, and which may be said not to have been fairly born when the census of 1890 was taken, the estimates of the census on the basis indicated will undoubtedly prove too small. This fact was frankly admitted in Bulletin No. 7; and a caution was added against any false conceptions in consequence of rigid adherence to the rule of estimating. Several cities from which complaints have been received are undoubtedly within this category, and they should find whatever solace is necessary for their wounded municipal pride in this admission of the fallibility of the rule in exceptional cases, which is found on page 4 of the census bulletin.

"In several cases the suggestion is made that the Census should have sent its agents to the locality, and satisfied itself by actual examination that the rate of growth in population is greater than that arrived at by the arithmetical calculation. Such a course was impossible, for reasons that seem to me obvious. As already stated, this office was not taking a census, or anything akin to a census. If, as a result of superficial investigations, unsupported by an actual enumeration, the Bureau had undertaken to publish estimates of population for particular cities larger than those reached by its established rule, then indeed it would have deliberately invited endless criticism. For then it would have substituted sheer guessing for estimates based upon actual enumerations and obtained by a uniform method; wherever it failed to report a population as large as the local expectation, it would have been denounced; wherever it increased the estimates over the population arrived at by the calculation, it would have laid itself open to the criticism that it was favoring certain communities at the expense of others. In the absolute impartiality with which the rule was applied lay the only possible safety for the Census Bureau. It can command respect by consistency, even when it knows that consistency involves a certain element of

reasons which led to the establishment of the permanent Census Bureau. Therefore it is especially agreeable to be able to report to you that the clerks and officials of this Bureau, as they grow more proficient, are becoming individually more interested in the lines of work under investigation, are showing greater adaptability for assignment to different inquiries, and promise to become an exceptionally efficient force. It is my policy to transfer clerks in large numbers from one division to another as the pressure of work demands. Incidentally this policy has increased greatly the familiarity of the clerks in the Bureau with different classes of work. As many male clerks are assigned to field work as can be spared from duty in the office; thus a considerable proportion of the employees of the Bureau are constantly dealing directly with the business and professional classes in different communities. This policy enables many of the employees of the Bureau to obtain practical experience in the first step of census work, in addition to the knowledge which they already possess of Census Bureau routine.

The lack of expert assistance in training and directing clerks in this office was recognized by Congress at the last session, and the number of expert chiefs of division was increased from 4 to 8. A list of the officials in the Bureau of the Census and the number of clerks and employees, by different grades, will be found in Appendix B.

Respectfully,

S. N. D. NORTH, *Director.*

Hon. VICTOR H. METCALF,
Secretary of Commerce and Labor.

---

error. It will lose public confidence when it attempts to arbitrate upon the claims of local directory makers and real estate agents.

"By applying a uniform rule, admitting its defects in certain circumstances, the Census deprives any city of the right to make complaint against it for unfairness or partiality; and all cities can make use of the estimates for the purpose of computing statistical rates in mortality and other municipal reports, with the certainty that these rates will be sufficiently accurate to answer the purposes for which they are ordinarily required.

"In many of the States of the Union intercensal censuses will be taken next year; and the returns of these enumerations will be utilized by this office in correcting its estimates for future years. But the office can not accept the result of local censuses, however taken, as a basis for modifying its estimates, and for the very good reason that these local censuses are almost invariably found to be grossly incorrect when checked up by a national census.

"Turning now to the general results of the census method of projecting the population, as applied to the entire country, I call your attention to the remarkable accuracy that attends the computation when it concerns conditions which can not be affected by local influences and variants. The estimated population of continental United States for 1900, as determined by this method on the basis of the increase from 1880 to 1890, was 75,414,181, while the actual population as returned by the census of 1900 was 75,994,575. In other words, the actual population was 580,394 in excess of the estimate, showing the latter to be in error by three-fourths of 1 per cent. How far this negligible error is due to the influence of immigration can not be determined.

"If we project the population of continental United States for the entire decade in which we are now living, by the census method, we reach the conclusion that the Thirteenth Census, in 1910, will show a population in the neighborhood of 89,041,436. This indicates a percentage of increase of 17.2, as compared with 20.7 in the decade of 1890–1900. Events are possible in the future development of the country which will put this estimate awry from the actual census of 1910. Such a possibility exists under every method of estimating.

"Very respectfully,

"S. N. D. NORTH,
"*Director.*"

APPENDIX A.

REPORT OF JOHN W. LANGLEY, DISBURSING CLERK OF THE BUREAU OF THE CENSUS.

For the fiscal year ended June 30, 1904.

1. *Appropriations, disbursements, unexpended balance, and outstanding liabilities for the fiscal year ended June 30, 1904.*

	Amount appropriated.	Amount disbursed.[a]	Amount unexpended.	Amount of outstanding liabilities.
Total	$1,322,247.14	$1,129,192.88	$193,054.26	$32,196.81
Salaries	685,860.00	634,457.06	51,402.94	513.79
Special agents	160,000.00	159,242.43	757.57	757.57
Rent	26,600.00	24,383.33	2,216.67	2,216.67
Stationery	10,000.00	3,494.93	6,505.07	5,818.91
Library	5,000.00	4,871.92	128.08	128.08
Transcript of registration records	14,000.00	5,353.04	8,646.96	3,556.96
Rent of tabulating machines	10,000.00	10,000.00		
Miscellaneous expenses	15,000.00	14,988.39	11.61	11.61
Expenses of the Twelfth Census	395,787.14	272,401.78	123,385.36	19,193.22

[a] Including payments by the Auditor for the State and other Departments from the appropriations:

Special agents, Census Office, 1904	$6,118.11
Miscellaneous expenses, Census Office, 1904	88.95
Expenses of the Twelfth Census	1,678.45
Excluding disallowances from the appropriations:	
Special agents, Census Office, 1904	45.99
Expenses of the Twelfth Census	48.09

2. *Unexpended balance of the appropriation made for the expenses of the Twelfth Census reappropriated March 3, 1903.*

(1)	The unexpended balance as shown by the report of the Director of the Census to the Secretary of the Interior, July 15, 1903	$462,753.94
(2)	Disallowances, year 1903, collected and credited	735.65
		463,489.59
(3)	Less supplemental accounts paid for the fiscal year 1903	68,010.45
		395,479.14
(4)	Receipts during the year 1904, from the sale of transcripts of census records	308.00
	Total amount of the unexpended balance available for the fiscal year 1904	395,787.14

3. *Expenditures, including outstanding liabilities, for the fiscal year 1904, chargeable against the unexpended balance of the appropriation for the expenses of the Twelfth Census.*

Amounts (including outstanding liabilities) for current expenses of the office (other than for the Philippine Census) after the specific appropriations provided in the legislative act for the purposes indicated were exhausted:		
Special agents, Census Office, 1904	$87,942.42	
Miscellaneous expenses, Census Office, 1904	14,467.90	
Library, Census Office, 1904	493.40	
		$102,903.72
Amount of that portion of the Philippine Census paid from this unexpended balance		167,675.18
Amount of settlements made by the Auditor for the State and other Departments		1,678.45
Amount of miscellaneous expenses		19,337.65
		291,595.00
Amount of the unexpended balance available for the fiscal year 1905		104,192.14

4. *Approximate cost of the tabulation and compilation of the census of the Philippines to June 30, 1904.*

Expended from unexpended balance of Twelfth Census appropriation		$167,675.18
Expended from specific appropriations for 1904:		
Approximate cost of clerical labor	$31,742.64	
Cost of printing	11,750.13	
Miscellaneous	2,949.63	
		46,442.40
Total		214,117.58

APPENDIX B.

Clerical and field force.

Chief clerk	Edward McCauley.	
Disbursing and appointment clerk	John W. Langley.	
Chief statisticians:		
Population	William C. Hunt.	
Manufactures	William M. Steuart.	
Agriculture	Le Grand Powers.	
Vital statistics	William A. King.	
Geographer	Charles S. Sloane.	
Expert chiefs of division:		
Director's office	Leon B. Leavitt.	
Population	William H. Jarvis. Edward W. Koch.	
Manufactures	Joseph D. Lewis.	
Agriculture	Hart Momsen.	
Vital statistics	Richard C. Lappin.	
Revision and results	Joseph A. Hill.	
Publication	William S. Rossiter.	
Total		15
Stenographer	1	
Clerks class 4	4	
Clerks class 3	7	
Clerks class 2	16	
Clerks class 1	312	
Clerks $1,000	212	
Clerks $900	37	
Expert map mounter	1	
Engineer	1	
Electrician	1	
Skilled laborers $1,000	3	
Skilled laborers $900	5	
Skilled laborers $840	2	
Firemen	2	
Messengers	6	
Assistant messengers	13	
Unskilled laborers $720	19	
Unskilled laborers $660	2	
Watchmen	10	
Charwomen	43	
		697
Total		712

Temporary force (Philippine Census).

Translator $3,000	1	
Clerks class 1	1	
Clerks $1,000	3	
Clerks $900	9	
Charwomen	3	
		17
Total		729

Special agents.

Regular field work	27	
Cotton crop agents	667	
Expert special agents, special classes, and vital statistics	2	
Expert special agents in railroad valuation	11	
Chemical expert	1	
Electrical expert	1	
Special agents for special classes	5,451	
		6,160
Total		6,889

APPENDIX C.

SUMMARY OF CONTENTS OF VOLUMES PUBLISHED DURING THE PAST YEAR.

STATISTICAL ATLAS (SECOND EDITION).

207 plates. Edition, 15,000 copies.

Illustrating statistics of population, vital statistics, agriculture, and manufactures.

EMPLOYEES AND WAGES.

1,344 pages. Edition, 7,000 copies.

Comprising rates of wages and amounts earned for males and females, for specified periods, in typical manufacturing establishments in various lines of industry and in all sections of the United States.

OCCUPATION AT TWELFTH CENSUS.

1,029 pages. 34 diagrams. Edition, 7,000 copies.

A detailed classification of occupations for males and females by general nativity, color, age periods, parentage, conjugal condition, and months unemployed.

BULLETINS.

No. 3.—*Street and Electric Railways.* (193 pages. Edition 8,000 copies.) Preliminary report on equipment, cost of construction, expenses, income, wages, wage-earners, and operations for year.

No. 4.—*Discussion of Increase of Population.* (63 pages. 10 maps and diagrams. Edition, 8,500 copies.) Discussion of increase of population for the United States and outlying districts, by geographic and physiographic divisions, States and Territories, counties, cities, and country districts.

No. 5.—*Central Electric Light and Power Stations.* (59 pages. Edition, 10,000 copies.) Detailed statistics of equipment, cost of construction, expenses, income, wages, and wage-earners.

No. 6.—*Mineral Industries of Porto Rico.* (18 pages. 7 maps and illustrations. Edition, 6,000 copies.) Historical, descriptive, and statistical.

No. 7.—*Estimates of Population.* (21 pages. Edition, 10,000 copies.) Method and result of estimating the population of the larger cities of the United States in 1901, 1902, 1903.

No. 8.—*Negroes in the United States.* (333 pages. 14 maps and diagrams. Edition, 8,000 copies.) Analysis of negro population and the negro as a farmer, with general tables.

No. 9.—*Mines and Quarries.* (59 pages. Edition, 13,000 copies.) Preliminary report on mines and quarries, presenting statistics for all mines and quarries, and petroleum and gas wells, with such manufacturing operations as were carried on in immediate connection therewith, for year ending December 31, 1902. Statistics confined to operations at mine, quarry, or well.

No. 10.—*Quantity of Cotton Ginned in the United States (crops of 1899 to 1903, inclusive).* (56 pages. 13 maps. Edition, 40,000 copies.) Statistics for cotton crop of 1903, with comparative statistics for 1902, 1901, 1900, and 1899.

Special features: Cotton reclaimed by thrashing cotton bolls; estimate of cotton destroyed by the boll weevil; and distribution by States of the quantity of linter cotton saved by the cottonseed-oil mills from reginning seed of the crop of 1903.

No. 11.—*Municipal Electric Fire Alarm and Police Patrol Systems.* (33 pages. 2 illustrations. Edition, 7,000 copies.) Containing a historical and descriptive account of these systems with detailed statistics of construction and equipment.

No. 12.—*The Executive Civil Service of the United States.* (239 pages. Edition, 15,000 copies.) Detailed statistics of nativity, age, sex, service, salary, occupation, and location of the employees in the civil service of the United States.

No. 15.—*A Discussion of the Vital Statistics of the Twelfth Census.* (24 pages. Edition, 8,000 copies.) Supplemental and comparative statistics.

PHILIPPINE CENSUS BULLETINS.

No. 1.—*Population of the Philippines.* (100 pages. Edition, 35,000 copies.) Population by islands, provinces, municipalities, and barrios, 1903.

No. 2.—*Climate of the Philippines.* (103 pages. 29 maps and diagrams. Edition, 15,000 copies.) Description of islands, the temperature, water vapor, and movements of the atmosphere.

No. 3.—*Volcanoes and Seismic Centers of the Philippine Archipelago.* (80 pages. 17 maps and outlines. Edition, 15,000 copies.) Containing an account of the volcanic nature, the historical geology, and the earthquakes of the archipelago, with description of principal volcanoes and seismic centers.

PAMPHLETS.

Statistical Treatment of Causes of Death.—(19 pages. Edition, 1,000 copies.) Plan proposed by the Committee on Demography of the American Public Health Association in cooperation with the Census Bureau, relative to the treatment of jointly returned causes of death, and the revision of the international classification.

Registration of Births and Deaths.—(32 pages. Edition, 1,000 copies.) Draft of laws and forms of certificates for the registration of births and deaths, approved by cooperating committees, the Surgeon-General of the United States Public Health and Marine-Hospital Service, and the Director of the Census, with list of pamphlets on vital statistics issued by the Census Bureau.

Report of the Director to the Secretary of Commerce and Labor.—(27 pages. Edition, 2,500 copies.) A report of the progress of census work in the interval between report to Secretary of the Interior, June 30, 1903, when this office was incorporated in the Department of Commerce and Labor, and this date, October 28, 1903, with an outline of plans for the future, and certain recommendations and suggestions regarding the proper field and function of the permanent Census Bureau.

Uniform Municipal Accounting.—(89 pages. Edition, 1,000 copies.) Minutes of a conference on uniform municipal accounting held in the city of Washington, November 19 and 20, 1903, under the auspicies of the United States Bureau of the Census.

Collaboration in Federal and State Statistical Work.—(73 pages. Edition, 500 copies.) Report of the permanent committee on uniformity of schedule and cooperative work in the census of manufactures, 1905, for the twentieth annual convention of the commissioners of State labor bureaus, Concord, N. H., July 12, 1904, showing difference between census manufacturing schedule and State schedules.

American Census Taking.—(34 pages. 11 illustrations and diagrams. Edition, 50,000 copies.) Published for distribution at the Louisiana Purchase Exposition. History of American census taking and description of mechanical devices used, with plans for future census work and summary of census publications.

REPORT

OF THE

SUPERINTENDENT COAST AND GEODETIC SURVEY

REPORT

OF THE

SUPERINTENDENT COAST AND GEODETIC SURVEY.

DEPARTMENT OF COMMERCE AND LABOR,
COAST AND GEODETIC SURVEY,
Washington, July 1, 1904.

SIR: I have the honor to submit the report of the operations of the Coast and Geodetic Survey for the fiscal year ending June 30, 1904:

It is gratifying to announce the completion of the determination of the difference of longitude between San Francisco, Cal., and Manila, P. I., thus connecting the longitude circuit around the earth. This work was made practicable by the generous cooperation of the officers of the Commercial Pacific Cable Company, who placed their cables and operators at the service of the Survey during the short periods needed for the transmission of time signals between the stations for comparison of chronometers. Incidentally, during the progress of this work, the longitude of Honolulu, Hawaii, of Midway Islands, and of Guam Island were determined, definitely locating all the important points of call between the Pacific coast and Manila.

The reconnaissance for the primary triangulation along the ninety-eighth meridian was completed to the Canadian border, and a scheme was extended eastward connecting this work with the triangulation of the Mississippi River Commission. The primary triangulation in the Dakotas and Texas was prosecuted at a rate which surpassed even the notable record which had already secured an enviable reputation for the geodetic operations along this meridian, the total extension for the year amounting to 300 miles (500 kilometers).

In California and Oregon equally remarkable progress was made in connecting the transcontinental arc work with Puget Sound.

The preparation of the case of the United States before the Alaska Boundary Tribunal was materially facilitated by the information furnished by officers of the Survey familiar by personal experience with the topographic features of the region in dispute, and by the preparation of necessary maps in the office at Washington; every aid and facility which the extensive operations of the Survey in Alaska had accumulated in its archives or qualified its employees to give was fully supplied.

During the presentation of the case by counsel in London the Superintendent and one of the field officers, at the request of the Secretary of State, were in attendance as geographical advisers. After the case

was decided, the Superintendent, as United States member of the International Delimitation Commission, personally cooperating with the commissioner of Great Britain, inaugurated the marking of the boundary between Alaska and Canada as laid down by the Alaska Boundary Tribunal, and placed two parties in the field to continue the work, these to be later supplemented by a third one.

The Fourteenth General Conference of the International Geodetic Association was convened during the fiscal year in Copenhagen, Denmark, the Superintendent attending as the designated delegate on the part of the United States, and presenting the report on geodetic operations and developments in this country. Two of the chain of observatories maintained for the observation of variation of latitude, at the expense of the International Geodetic Association, are located at Gaithersburg, Md., and at Ukiah, Cal., under the direction of the Superintendent; the results from both during the year have continued the excellence which has always characterized their work.

Another important duty upon which satisfactory progress has been made during the year is the work of re-marking the boundary line between the United States and Canada westward from the Rocky Mountains. These operations were directed by a commission of which the Superintendent is a member, two officers of the Survey being detailed for work in the field. The old monuments on this work were set at varying distances, the intervals ranging from one-quarter mile to 25 miles. The re-marking will result in leaving no greater intervening distance than 3 miles; but to insure this and a result which is adequate and satisfactory, long vistas have to be cut through some of the heaviest virgin forest growth on the continent and across some of the most difficult mountain country.

MAGNETIC SURVEYS AND OBSERVATIONS.

The various operations of the magnetic survey of the country show gratifying progress during the year. The determination of the magnetic declination, dip, and intensity was made in 327 localities, embracing 367 stations, distributed over 24 States and Territories and 2 foreign countries. An extensive investigation was made of the marked local disturbances in the vicinity of Juneau, Alaska, 45 stations being occupied for this purpose. In cooperation with the Louisiana geological survey, the magnetic survey of the State was completed. Effective cooperation was secured with an expedition sent to the Bahama Islands by the Baltimore Geographical Society, and valuable results were thus obtained without expense to the Survey.

Excellent progress was made in securing magnetic observations at sea during the voyages of the ships of the Survey to and from their fields of work. In the Atlantic and Pacific oceans 92 results of magnetic declination and 33 results of magnetic dip and intensity were thus obtained, nearly all of them derived from complete swings of the ships, forward and back.

Continuous records of the variations of the magnetic elements were secured throughout the year at five magnetic observatories, situated at Cheltenham, Md.; Baldwin, Kans.; Sitka, Alaska; near Honolulu, Hawaii; and Vieques, P. R. During the year a large number of magnetic storms were recorded, the most remarkable one occurring October 31–November 1, 1903.

It is interesting to note that within this year a bureau of international research in terrestrial magnetism was created by the Carnegie Institution of Washington, with an officer of the Survey, the inspector of magnetic work, in charge as director. The cooperation thus insured is certain to prove extremely profitable in results.

TIDE OBSERVATIONS.

A continuous record of tide observations with self-registering gauges was obtained during the year at 8 stations, including 1 station in Hawaii and 1 in the Philippine Islands; and for a portion of the year at an additional station, which was established on the Gulf of Mexico, at Galveston, Tex.

The electric tide indicator installed in the maritime exchange at Philadelphia continued to give satisfaction, and a similar apparatus was installed during the year in the maritime exchange at New York, which has been equally useful and satisfactory.

The tide indicators established for the use of mariners in New York Harbor, in the Delaware River at Reedy Island, and in San Francisco Bay continued in operation during the year.

GENERAL SURVEYS.

In the United States hydrographic surveys were made in the waters of 16 States and Territories, topographic surveys in 9, triangulations in 14, and leveling in 6.

During the year the necessary field work and investigations for the revision of two volumes of the United States Coast Pilot, covering the coast from Point Judith, Rhode Island, to Chesapeake Bay, were completed and made available for use.

In Alaska the regular combined operations were continued in Prince William Sound; the survey of Davidson Inlet was completed; and, at the request of the Navy Department, two vessels were fitted out for the survey of Kiska Island and adjacent waters, where it is intended to establish a naval station of great importance.

The hydrographic work prosecuted in Porto Rico resulted in the discovery and development of one of the best harbors in the island. The work undertaken in the years since the Coast Survey commenced operations in the island has altered materially our geographic knowledge of this section, but the most important results are the remarkable additions to what was known of its harbor facilities. In an island with a shore line of about 310 statute miles, which has been for nearly four hundred years in the possession of a civilized power, with a rich, fertile soil and a dense population to whom, on account of the wretched system of interior communications, water carriage was highly important, in the six years since American occupation our surveys have developed four harbors or anchorages whose importance was so absolutely unknown that their names were not even mentioned in the Spanish or the comprehensive British Admiralty catalogue of charts.

On the east coast the importance of the Ensenada Honda was first made manifest and its use made practicable by our survey; on the south coast Port Jobos was brought to the attention of the world and was at once utilized in the development of the largest American sugar enterprise on the island; a similar discovery at Guayanilla placed

another safe, deep port at the service of those who are eagerly improving the rich sugar lands of southern Porto Rico, and the latest discovery will be of great importance in assisting to bring to its proper share in the general advancement a section of country which contains the finest fruit lands in the island, the best pastures, and which, despite the forbidding character which wretched charts have ascribed to its waters, has been almost the only salt manufacturing section for Porto Rico and adjoining islands. The new harbor has two fine entrances. The northern one is available for vessels of 28 feet draft, the southern can be entered by vessels drawing 35 feet. The anchorage is sheltered from all quarters, and the port is but 11 miles from Mayaguez, the third most important city in the island, and the harbor for depth and safety can be compared only with San Juan, of all the harbors known before the American occupation.

OPERATIONS IN THE PHILIPPINES.

The urgent need for the preparation of correct maps and charts of the Philippines has been amply demonstrated by the numerous serious disasters occurring in those waters since the American occupation, involving the injury to or the loss of many valuable vessels, including men of war, transports, and commercial ships, because of defective surveys or the necessity of navigating waters practically uncharted. This was early appreciated by the distinguished administrator first appointed civil governor of the islands, and on the advent of the Survey in the islands, on his motion, the Philippine Commission, with gratifying cordiality, entered into a generous cooperation with the National Government in carrying out a systematic scheme of surveying. The Philippine government, in addition to the steamer which it equipped and furnished, has during the current year made appropriation for the construction of another special surveying steamer. It defrays the field expenses of the work (except those of the regular Coast and Geodetic steamer and the subsistence of the field officers and experts detailed from the Survey for service in the islands), besides meeting the greater part of the office expenses. This assistance, considering the present financial condition of the islands, is extremely generous, but it is doubtful if there are many expenditures which will be more profitable in the end, and for which the necessity is more imperative.

The archipelago, with an area of 115,000 square miles and comprising 1,668 islands, and containing no point more distant than 60 miles from the sea, must always be dependent primarily on water carriage for movement of its products. The Spanish surveys were very inadequate, and on the Pacific coasts of the islands, for Mindanao, the Sulu group, Mindoro, and the small groups in the China sea, are little better than sketch work; and with the withdrawal of the Spanish officials the work of the Spanish hydrographic office in the archipelago ceased entirely and for a time the only chart supply consisted of foreign reprints of the Spanish productions, some of which were made over a century ago. The plan in force now is, pending the time when adequate surveys can be made for the archipelago, to reproduce the best charts that can be found, corrected from the latest data, and in this work the Survey has enlisted the cooperation of the Navy, the Army engineers, Army quartermaster service, the Philippine coast guard, and Light-House Service,

scientific bureaus of the Philippine government, and insular shipping concerns, and the preparation of a corrected supply of all available desirable Philippine charts is rapidly being hastened to completion. In the suboffice at Manila 15 native draftsmen are being employed on the work with results which are eminently gratifying for accuracy and artistic skill.

The importance of comprehensive and thorough scientific exploration and surveys of the Philippine Islands has impressed the President so forcibly that he requested the National Academy of Science to consider and report on its desirability, and to report on the scope proper to such an undertaking. In its reply the committee suggested a plan in which the Coast and Geodetic Survey work and marine hydrography was placed first in order of execution, and the Superintendent was appointed on the board of surveys designated to prepare a plan of work and organization, and submit estimates of the cost.

During the fiscal year detached surveys to meet the demand of the public service and the pressing needs of commerce, based on astronomic determinations and including base measurement, triangulation, topography, hydrography, and tide observations, were made at various points, and the connected triangulation of the west and north coasts of the island of Luzon was nearly completed to Manila Bay. Two additional telegraphic longitudes were determined, locating the principal port on the west coast of Panay and the only commercial point of call in the Cuyo group.

MISCELLANEOUS WORK.

Among the miscellaneous duties upon which officers of the Survey have been employed, the following are the principal: As provided by law, one of the members of the Mississippi River Commission was selected from the officers of the Survey, and acted in that capacity during the year; the survey of Mason and Dixon's line, the boundary between the States of Maryland and Pennsylvania, has been conducted by an officer of the Survey, and, the field work being completed, the preparation of the maps and accompanying report was taken up and materially advanced; in Louisiana, at the request of the United States Commissioner of Fish and Fisheries, one of the officers was engaged in surveys of the natural oyster beds and reefs in Louisiana waters in cooperation with the Louisiana Oyster Commission; and in New York an officer, at the request of the city authorities, was detailed as supervising expert in charge of triangulation operations covering the area of the extended Metropolitan district.

Besides the work done for the Department of State in the office, an officer who had extensive experience in Alaskan surveys was detailed for duty with the American counsel in Pittsburg during the preparation of arguments to be used in London.

In the North Pacific, at the request of the Chief Signal Officer of the Army, Gen. A. W. Greeley, a deep-sea examination, which began on June 25, was extended from the strait of Juan de Fuca to Cape St. Elias as a necessary preliminary to laying a cable between Seattle and Valdez; and while operating in Alaskan waters an officer of the Survey accompanied the cable-laying ship, *Burnside*, as expert hydrographer and navigator.

An important aid was supplied to the shipping interests in the compass deviation ranges established by marks placed on the inner Dela-

ware breakwater, which will enable the great number of shipmasters who seek its shelter to determine the corrections to their compasses while swinging at anchor in the national harbor of refuge.

A comprehensive exhibit illustrating the instruments and methods of the Survey was installed in the Government exhibit at the Louisiana Purchase Exposition, which was maintained until the close.

OFFICE OPERATIONS.

In the office the current work was kept up to date, and satisfactory progress was made in its various branches, including computation, reduction, plotting, and discussion of results of field work, and the preparation of the results for publication by chart or otherwise.

COMPUTING DIVISION.

The routine work of the computing division has as usual received prompt attention and been kept satisfactorily up to date, although the demands upon the division have been very great, both from the field parties of the Survey and from outside persons desiring special information, particularly in regard to geographic positions and descriptions of stations.

The special work accomplished during the year has been very important, some of the leading undertakings being as follows:

(1) Considerable progress has been made in the computation of the primary triangulation along the ninety-eighth meridian.

(2) The computation of precise leveling work has been kept up to date, or nearly so, continuously.

(3) The reduction of the triangulation of California to the United States standard datum has made excellent progress, and is now nearly completed from the Mexican boundary to about latitude 37° in the vicinity of Monterey Bay. These computations were begun in August, 1902, and at the end of the last fiscal year were completed as far north as Point Conception. The published results have already been distributed.

(4) The computations connected with the new computation of the form of the geoid have progressed steadily during the year. The revision of the general formulas for the treatment of very large areas has been necessarily slow, but is now nearly completed. The topographic corrections to observed deflections of the vertical, to take account of the topography for a radius of more than 4,000 kilometers around each station, has been completed for about 180 astronomic stations. About 300 additional stations are now available for similar treatment.

(5) The computations of determinations of gravity at the surface, and at stations 1,200 to 4,600 feet, respectively, below the surface of the ground at the North Tamarack mine near Columbia, Mich., have been completed and a special report upon them has been prepared.

(6) The computations of the tests made in March, April, and May of the transit micrometer fitted on one of our portable transits, and proposed to be used in telegraphic longitude work hereafter, have been completed and a comparative and descriptive report thereon submitted to the Superintendent and published.

During the year the manuscript for two appendices entitled, respectively, "Precise Leveling in the United States, 1900–1903" and "Triangulation Southward along the Ninety-eighth Meridian in 1902" were completed and the proofs read in cooperation with the editor. The proof of "Report of Geodetic Operations in the United States," which was presented to the International Geodetic Association, was also read.

The computing division in addition to its normal force has been augmented from time to time as opportunity offered by the temporary detail of assistants, aids, and ship officers who were available between the field seasons.

DIVISION OF TERRESTRIAL MAGNETISM.

The division of terrestrial magnetism has kept the revision of the current magnetic determinations as nearly as practicable up to date, and the results for the fiscal year have been published in the Superintendent's annual report. Good progress has been made in the tabulation of the absolute values at the magnetic observatories. The computation of the magnetic observations made by the Bahama expedition of the Baltimore Geographical Society was completed, and a report made on the results. A report was made on the magnetic survey of Louisiana carried on under the joint auspices of the Coast Survey and the State geological survey. This involved a new discussion of the secular change of the magnetic declination in Louisiana and adjoining States; the results were reduced to January 1, 1904, and an isomagnetic chart for that date was prepared. In connection with the discussion of magnetic observations at sea on board the vessels of the Survey, a summary of all available results of magnetic work at sea was prepared. In the tabulation of results at repeat stations for use in future secular change discussions, extremely gratifying progress was made. Observations for standardizing various magnetic instruments were made as required, and the recent additions to the force of magnetic observers were instructed in the use of instruments and in the methods of computing. In addition to ordinary inspecting work the duties at the Cheltenham Observatory required the presence of the inspector for one or two days each month. The trustees of the Carnegie Institution have established a bureau of international research in terrestrial magnetism, for which the inspector of the division has been selected as director, and this cooperation is certain to be prolific in important results.

The widespread demands for information from civil engineers, surveyors, and the general public are persistent and heavy, and furnish an excellent criterion of the importance attached to the work of this division and the keen appreciation entertained for it.

TIDAL DIVISION.

In the tidal division the tide tables for 1905 were prepared for printing and the proof of the first 80 pages was read before June 30. A current diagram for Georges Bank, Gulf of Maine, and twilight tables were added to the volume. Harmonic analyses were computed for 11 stations, with an aggregate length of two years and four months. Nonharmonic reductions were made for 272 stations, with a total length

of fifty-eight years. Tide notes were prepared for 370 stations upon 100 charts and 43 original hydrographic sheets. Tidal information was furnished to the field parties, and in response to requests from individuals not connected with the Survey, in 286 instances, involving the preparation of 451 descriptions of bench marks, tidal data for 705 stations, and current data for 86 stations. About eighteen years of self-registering tide gauge records, from 37 stations, were tabulated as high and low waters, and also as hourly heights of the sea. There were received, examined, and registered in this division an aggregate of about twenty years of record from self-registering gauges at 38 stations, together with about seven years of record from box and staff gauges. Tidal records from outside sources were received as follows:

(1) The Navy Department loaned to the Survey about four and one-half years of records from self-registering tide gauges at 23 stations, and one and one-half years of staff observations at 20 stations, or a total of about six years of record at 43 stations. These stations were distributed as follows: 18 in Cuba, 2 in Panama, 7 in Mexico, 8 in the Philippines, 2 in China, and 1 each in Haiti, Porto Rico, Venezuela, Nicaragua, Midway Island, and Guam Island.

(2) About a year of self-registering gauge record has been received from Nassau, New Providence Island, Bahamas. The gauge and paper were furnished by the Survey, but the station was established and maintained by the Bahama expedition of the Baltimore Geographical Society, under the direction of Mr. George B. Shattuck.

(3) From various publications received in the library the following tidal information has been obtained: About five and one-half years of record at 64 European ports, three and one-half years at 14 Arctic stations, one year at Cape Horn, and nearly two years at 16 scattered stations, chiefly oceanic islands, making a total of about twelve years of record at 95 stations.

Copies of the predicted tides for Wellington and Port Russell, New Zealand, with tidal differences for 80 ports, were prepared and furnished in response to a request from the the secretary of the marine department of New Zealand.

Cotidal maps of the world were constructed and are published in Appendix 5 to the Annual Report of the Bureau.

DRAWING AND ENGRAVING DIVISION.

The drawing and engraving division comprises five sections whose operations are described under their respective headings.

Besides the regular output of these sections the division satisfied 353 requests during the year which involved the measurements of areas, shore line, and distances between various points, the preparation of tracings from original topographic and hydrographic sheets, copies of old and canceled charts, and construction of special maps.

Drawing section.—During the year 14 drawings were completed for photolithographing or engraving, and 10 others are in progress. In addition to the foregoing, 658 charts were revised (including second and third edition of the same chart), corrected, and verified for new editions or prints. Two hundred and ninety-one topographic and hydrographic sheets were inked, plotted, revised, or made ready for the approval of the Office. The illustrations required for the Annual

Report of the Superintendent for the year 1903 were completed and the usual number for the report for 1904 was prepared. A very large commercial map of the world (colored) was prepared for the use of the Secretary of Commerce and Labor. A large amount of work was done for the Department of State in preparing for publication maps relating to the Alaska boundary. The increasing work necessary for keeping up the Philippine charts, which are growing rapidly in number, has added a heavy amount of detail work to this section.

Engraving section.—In the engraving section the copper plates used in reproducing the charts are engraved and corrected. The following table gives the work of the year:

Original plates commenced	5
Original plates completed	8
Original plates unfinished	20
New editions commenced	22
New editions completed	19
New editions unfinished	17
New bassos commenced	11
New bassos completed	6
New bassos unfinished	5
Plates corrected for printing	663

Printing section.—The output for the year of the printing section, where charts are printed from plates or lithographic stones, has been 69,751 charts.

The total number of impressions printed from copper plates was somewhat less than during the previous year, but the number of charts (including new charts, new editions, and new prints) published by photolithography during the year was 50 per cent greater.

A new lithographic press was installed before the close of the calendar year and worked successfully during the remainder of the year. The prints from this press already compare favorably with those obtained by public contract.

The exhibit of the Coast and Geodetic Survey at the Louisiana Exposition included a display from this section, a printing press and two employees being kept in constant service.

Photographic section.—In the photographic section there was an unusual increase in amount of work executed:

Number of negatives made	801
Number of negatives developed	353
Number of prints made	3,045

Electrotyping section.—All the altos and bassos of the charts for plate printing were prepared in the electrotyping section of the Office.

CHART DIVISION.

The chart division, through its constituent sections, the hydrographic and chart, supervised the verification of material for the construction and execution of new charts and the correction of older editions. Through it the charts are distributed to the other Departments of the Government or the general public, and through monthly notices to mariners it gives notice of all hydrographic information relating to Coast and Geodetic Survey charts of interest to the maritime public.

The sale of charts for the current year exceeded that in any previous one.

INSTRUMENT DIVISION.

The duties of the instrument division comprise all relating to purchase, construction, and repairs of instruments; storage, issue, and control of instruments, camp outfit, and general property, and minor repairs to office building and furniture in Washington.

The studies and investigations carried on in the division and designs suggested by officers of the Survey have led to improvements to instruments which are of great importance. A valuable series of experiments, suggested in the division, led to the discovery of a suitable alloy of aluminum for use in construction of instruments, combining a low degree of density with great rigidity and toughness, and this alloy is now being used in constructing all portions of instruments for which it is adapted.

The Repsold & Sons' transit micrometer was modified and adapted for use in the portable transits in use on the Survey with very happy results, the apparatus designed and constructed in the office having been submitted to a most exhaustive series of tests with a large number of observers and the outcome being a genuine success. A new instrument designed by an officer of the Survey, called a dip sector, was constructed during the year. With this instrument the mariner can determine with accuracy the actual dip on board a vessel wherever vertical angle observations are made with a sextant. The instrument is already in use. For use of field parties two vertical collimators were constructed and sent out. In connection with the tide gauge at Philadelphia an ingenious arrangement was devised which enables the correct height of the tide to be accurately read where, ordinarily, position of the gauge and condition of the water would make it difficult. Miscellaneous results are: The purchase, modification, and installation of an electric tide indicator in the hall of the Maritime Association in New York, and inspection for acceptance of two 50-meter tapes and a tape-stretching apparatus made for the Republic of Brazil at the request of that Government. The preparation, shipment, and installment of the Coast and Geodetic contribution to the Louisiana Purchase Exposition added largely to the labors of this division.

LIBRARY AND ARCHIVES DIVISION.

In the library and archives division the records of the observations made in the field are indexed as received, and routine work in the library is attended to. The chief of the division was actively engaged for the greater part of the first half of the fiscal year in organizing the library of the Department.

MISCELLANEOUS SECTION.

The miscellaneous section has, as heretofore, attended to the ordering and distribution of supplies required for the office, the keeping of the accounts relating thereto, the making of requisitions for printing and binding, the issue of stationery to field parties and office divisions, the custody and general domestic and foreign distribution of publications of the Survey (other than charts), and the keeping of the records relating thereto.

MISCELLANEOUS OFFICE WORK.

The inspector of hydrography and topography made the necessary inspections of the work of parties in the field, and numerous trips were made in connection with the repairs and maintenance of the surveying vessels.

During the year plans and specifications for a new wooden steamer were prepared by Mr. L. B. Friendt, a naval architect, under the supervision of the inspector. The contract for the construction of the vessel was approved by the Secretary of Commerce and Labor on March 26, 1904, and the work was in progress on June 30. The only change in the list of Coast Survey vessels during the year was the sale of the schooner *Eagre* to the Navy Department, in July, because of unsuitability for further use in Coast Survey work.

In the coast-pilot section new editions of seven volumes for various Atlantic and Pacific coast sections were published, and two volumes of notes for Alaskan localities were issued. The usual routine of examination and collation of all hydrographic material for revision of coast-pilot publications was kept up to date.

The inspector of geodesy, besides preparing the detailed instructions for triangulation and astronomic parties, visited field parties in Wyoming, South Dakota, and Minnesota. During the remainder of the year the necessary supervision was exercised by careful examination of the correspondence with field parties and of the records of observations sent to the office from time to time, and which pass under his notice as chief of the computing division.

The inspector of division of terrestrial magnetism, besides preparing the necessary directions and information required by the various land and ship parties engaged in magnetic work, inspected field operations arranged for the testing and determination of the constants of newly acquired instruments, and in the office, as chief of the magnetic division, supervised the computation and reduction of all magnetic results. During the year he has inspected the field parties in New Jersey, Louisiana, and South Carolina, and made regular monthly visits to the observatory at Cheltenham, Md. Five magnetic observatories were maintained during the year under his direction, from which continuous records of the variations of the magnetic elements were obtained. They were situated at Cheltenham, Md., Baldwin, Kans., Sitka, Alaska, near Honolulu, Hawaii, and Vieques, P. R.

SUBOFFICE, MANILA, P. I.

In this office during the fiscal year 35 topographic sheets were inked, 33 hydrographic sheets were plotted, inked and verified, and 21 charts were completed, of which 15 were published. Nine topographic sheets were traced for one of the provincial governments, a large number of projections were prepared for field parties, some also being made for the army, constabulary, and insular treasury. All the triangulation and astronomic, tidal, and magnetic field work was computed or tabulated. One of the special works of this office was the preparation of preliminary plans and specifications for the construction of a launch and steamer to be built by the insular government for the use of the Coast Survey. Three volumes of Sailing Directions for the islands were prepared, these completing the first detailed Coast Pilot of the

Philippine Islands published in English; and 11 Monthly Notices to Mariners, of which 730 copies of each number are printed, were prepared to communicate urgent information to the seafaring public.

The officer in charge, besides supervising the execution of all the field and office work in the islands, acts as disbursing agent in making payments on account of the United States.

Number of charts distributed for official use or disposed of by sale in the islands	4,251
Number of charts received from the Coast and Geodetic Survey Office in Washington	4,125
The number of charts printed in Manila	3,366

The cost of the work, as in the past year, has been met by a division of expenses between the United States and the insular government. The United States has defrayed all the expenses of lithographing, engraving, and publishing charts, has paid the salaries of its officers in charge of the work, and has furnished the instrumental outfit and supplies from the United States. The insular government has supplied office room in Manila and paid the salaries of all the draftsmen (except the chief draftsman), clerks, and subordinate employees in the Manila office.

FINANCES.

The disbursement of the funds of the Coast and Geodetic Survey is made not only by payments directly from the disbursing agent, but also largely through the medium of assistants and other officers when acting as chiefs of parties. These officers, on approval of the Superintendent, receive advances of the public funds from the disbursing agent in lump sums, under authority of an Executive order dated March 26, 1886. In conformity to this order there are now 64 officers of this Service bonded in the sum of $2,000 to $5,000 each. When acting as chiefs of parties these officers receive from time to time such advances of public funds from the disbursing agent as are required to meet the necessary current expenses of the work in hand.

A ledger account is kept in the office of the disbursing agent with each chief of party receiving an advance, each one being charged with all advances made to him, and, on the other hand, receiving credit for all proper expenditures made by him when presented on regularly supported vouchers, after such accounts have been audited in the office of the disbursing agent and found to be correct. All of these accounts, with their supporting vouchers, are then sent to the Auditor for the State and other Departments for examination and audit by him. This system has met the needs of the service and results in economy and good order in its expenditures. In addition to the regular appropriations of the Coast and Geodetic Survey, the disbursing agent also disburses the appropriations for the survey and marking of the boundary between the United States and Canada and the boundary between Alaska and Canada. These appropriations were for the sum of $100,000 each per annum.

The amount appropriated for the Coast and Geodetic Survey for the fiscal year 1904 was $968,025 (exclusive of appropriation for printing), of which $210,245 was for manning and equipping the vessels of the Survey, $120,000 for building a new vessel, $38,100 for repairs and

maintenance of vessels, and $50,000 for office expenses. The remainder of the appropriation was about equally divided between expenses of parties in the field and salaries of the field and office forces.

PUBLICATIONS.

The editorial division has charge of the various publications, other than charts, of the Survey. The editor completed for printing the compilation of the Annual Report for 1902–3 (pp. 1–1032) and prepared it for transmission to the Senate under date September 2, 1903; it was available for issue on April 1, 1904.

Respectfully,

O. H. TITTMANN,
Superintendent.

The SECRETARY OF COMMERCE AND LABOR,
Washington, D. C.

REPORT

OF THE

CHIEF OF BUREAU OF STATISTICS

REPORT

OF THE

CHIEF OF BUREAU OF STATISTICS.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF STATISTICS,
Washington, July 1, 1904.

SIR: I have the honor to submit a report upon the work performed by this Bureau during the fiscal year 1904.

The publications prepared and issued by the Bureau during the year mentioned, with the number of pages thereof, and the number of copies printed for the Bureau, were as follows:

Title of publication.	Number of pages.	Number printed for Bureau.
Commerce and Navigation (annual):		
Volume 1	976	2,500
Volume 2	849	2,500
Parts of Commerce and Navigation:		
Volume 1	855	3,900
Volume 2	839	1,250
Statistical Abstract (annual)	650	4,000
Statement of Total Values of Imports and Exports (monthly)	18	6,600
Monthly Summary of Commerce and Finance	4,816	36,000
Parts of Monthly Summary:[a]		
Internal Commerce of the United States (monthly)	600	5,400
Statement of Exports of Breadstuffs, etc. (monthly)	168	12,000
Advance Sheets of Imports and Exports (monthly)	840	9,800
Immigration Statement (monthly)	24	2,400
Calendar-Year Statement	22	100
Monographs:		
British Steamship Contracts	18	1,000
British and Foreign Trade and Industry	26	1,000
Commercial Cuba	130	2,000
Commercial Alaska	80	1,000
Commercial China	121	1,000
Commercial Korea	33	1,000
Commercial Japan	144	1,000
Commercial Russia	114	1,000
Trade of the United States with Canada	30	1,000
Territorial and Commercial Expansion of the United States	76	1,000
Diplomatic and Consular Service of the United States	29	1,000
Warehousing Industry of the United States	64	1,000
Review of the Foreign Commerce of the United States	205	800
Steamer Lines from the United States to foreign ports	27	1,000
Declared Exports to the United States	194	1,000
Cuban Reciprocity Treaty	6	1,000
Modern Tariff Systems	98	1,000
Statistical Abstract of the World, Parts 1 and 2	228	1,000
Movement of Wholesale Prices, United States and Great Britain	20	1,000
Trunk Line Traffic	50	1,000
Customs Tariff of Cuba	28	1,500
Semiweekly press letter sheets	100	135,000
Consular Reports:		
Daily Consular Reports	3,472	853,000
Monthly Consular Reports[b]	3,177	99,550
Special Consular Reports:		
Markets for Agricultural Implements	182	3,200
Commercial Travelers in Foreign Countries	38	5,000
Macaroni Wheat	76	3,000
Emigration to the United States	210	5,000

[a] Printed from type set for Monthly Summary of Commerce and Finance.
[b] Printed chiefly from type set for Daily Consular Reports.

Title of publication.	Number of pages.	Number printed for Bureau.
Consular Reports—Continued.		
Commercial Relations (annual)—		
Volume 1	751	(a)
Volume 2	608	(a)
Review of the World's Commerce (annual)	265	(a)
Total	21,257	1,212,500

a Prepared in the fiscal year 1904, but not printed until the fiscal year 1905.

The publications enumerated above are compiled from material obtained as follows:

Monthly and annual reports of the foreign commerce of the United States and of its commerce with its noncontiguous territories, from statements supplied by the collectors of customs in the United States and in those territories.

Monthly statements regarding the internal commerce of the United States, from collectors of customs, from voluntary statements obtained from railroads and vessel masters, and from publications of boards of trade, the commercial and daily papers, etc.

Consular Reports, daily, monthly, special, and annual (including Commercial Relations of the United States), from reports received from the consuls of the United States through the Department of State.

Statistical Abstract of the United States, from information received from the collectors of customs, reports of the various bureaus of the Government service, reports of trade bodies, and statements supplied by railways, telegraph companies, and commercial and financial publications.

Statistical Abstract of the World, from the official reports of the various foreign governments, obtained in exchange for the official publications of the Bureau.

Monographs on special subjects, from official and unofficial publications regarding the subject in hand and by special investigation through correspondence and otherwise.

A special feature of the year's developments has been an increase in the calls upon the Bureau from trade bodies, manufacturers, business organizations, and individuals engaged in commerce or desiring to establish markets abroad; also a great increase in the number of requests for the publications of the Bureau for use in schools and higher educational institutions.

The number of letters written in the Bureau during the fiscal year 1904 was, approximately, 11,125, and the number of pages thereof 12,582. The number of letters, added to the number of documents distributed (1,129,218) gives, as the total number of documents and letters mailed, 1,140,343.

The work of the Bureau above outlined was performed with a total force of 61 persons, of whom 9 were messengers, laborers, etc.

Very respectfully,

O. P. AUSTIN,
Chief of Bureau.

The SECRETARY OF COMMERCE AND LABOR,
Washington, D. C.

REPORT

OF THE

SUPERVISING INSPECTOR-GENERAL STEAMBOAT-INSPECTION SERVICE

REPORT

OF THE

SUPERVISING INSPECTOR-GENERAL

STEAMBOAT-INSPECTION SERVICE.

DEPARTMENT OF COMMERCE AND LABOR,
STEAMBOAT-INSPECTION SERVICE,
Washington, D. C., October 18, 1904.

SIR: I have the honor to submit the following report of the Steamboat-Inspection Service for the fiscal year ended June 30, 1904, as required by section 4403, Revised Statutes, as amended by act of Congress, February 14, 1903, and under Department regulations relating thereto.

The personnel of this Service at the close of the fiscal year, June 30, 1904, consisted of 191 officers, clerks, and messengers, as follows, viz:

Supervising Inspector-General, chief clerk, 4 clerks, and 1 messenger, at Washington; and the Service at large, 10 supervising inspectors, 44 local inspectors of hulls, 44 local inspectors of boilers, 20 assistant inspectors of hulls, 22 assistant inspectors of boilers, and 44 clerks to local inspectors, including 1 clerk to supervising inspector at New York.

During the fiscal year ended June 30, 1904, there were the following changes in the Service, all under civil-service rules and regulations: Clerks—3 temporary appointments, 3 by transfer, 7 probational and absolute appointments, 8 clerks resigned; 2 temporary appointments of assistant hull inspectors, 3 probational and absolute appointments of assistant hull inspectors; 1 temporary appointment of assistant boiler inspector, 2 probational and absolute appointments of assistant boiler inspectors, 1 temporary appointment of local boiler inspector, 2 probational and absolute appointments of local boiler inspectors; 2 temporary appointments of inspectors expired by limitation, 1 assistant boiler inspector died. Total number of changes under civil-service rules by appointments, transfers, promotions, and removals, 33.

Following is a detailed account of the expenditures for the fiscal year ended June 30, 1904:

Salaries, Supervising Inspector-General, supervising inspectors, local and assistant inspectors, clerks, and messengers, paid from the funds in the Treasury not otherwise appropriated, acts approved June 19, 1886, and April 4, 1888, as amended by acts approved March 1 and 2, 1895, and act approved February 15, 1897 (appointments authorized by sections 4402, 4404, and 4414, Revised Statutes)	$316,379.16
Traveling expenses (mileage and actual), including transportation of inspectors to Hawaii and Porto Rico, detailed by Department	49,671.78
Rents, offices, and for meetings board of supervising inspectors	10,339.57
Notary fees, certificates of inspection, and expense accounts	1,595.05
Instruments and repairs to instruments	2,208.13
Stationery and transportation same	1,436.89
Telephone rents, telegrams, and postage	844.12
Typewriting machines, repairs and supplies for same	754.81
Furniture and repairs to furniture	382.13
Marshal's and witnesses' fees, cases of investigation	343.46
Ice, fuel, gas, and water rent	303.98
Clerk and messenger hire, meetings board of supervising inspectors, 1904	241.00
Paid for stenographers' services, cases of investigation	119.45
Paid for moving office of inspectors at St. Louis, Mo	99.50
Towels, soap, and laundry	78.75
Janitors to inspectors' offices	68.95
City directories, marine publications, etc	45.25
Official silver badges for inspectors	45.00
Care of clocks, repairs, etc., New York office	23.63
Labor at wrecked steamer *General Slocum*	14.20
Rent furniture special board meeting, 1904	15.00
Moving testing machine, New York office	6.00
Post-office box rent	11.00
Total traveling and miscellaneous expenses	68,647.65
Salaries as above noted	316,379.16
Total expenditures for year ended June 30, 1904	385,026.81
Total expenditures for year ended June 30, 1903	369,743.80
Increase, 1904	15,283.01
Salaries, 1904	316,379.16
Salaries, 1903	305,926.70
Increase, 1904	10,452.46
Contingent expenses, 1904	68,647.65
Contingent expenses, 1903	63,817.10
Increase, 1904	4,830.55
Traveling expenses, mileage and actual, 1904	49,671.78
Traveling expenses, mileage and actual, 1903	48,832.10
Increase, 1904	839.68

Rents, offices, etc., 1904	$10,339.57
Rents, offices, etc., 1903	3,950.43
Increase in rents, 1904	6,389.14

The increase in salaries as shown in above statement was caused by the appointment during the year of 2 additional assistant inspectors at New York, and near the close of last fiscal year of 2 additional assistant inspectors at the port of Philadelphia, Pa., and 2 assistant inspectors at the port of Norfolk, Va.; also by the increase of salaries of 4 clerks. The new appointments were made necessary by the exigencies of the Service. The increase in salaries of clerks was made on the recommendation of their superior officers because of increase of work, and for long, faithful, and meritorious service.

The increase in the rent account for the last fiscal year was due to the necessity of the Service in New York vacating its quarters in the public building and securing office space in the Whitehall Building, at No. 17 Battery place.

Aside from the item of rents, there is a decrease in contingent expenses of more than $1,500, as compared with the fiscal year ended June 30, 1903.

Statement of marine plates inspected at mills by assistant inspectors, under act of Congress approved January 22, 1894, during year ended June 30, 1904.

Inspected by assistant inspector—	Rejected plates because of—							Total.			
	Tensile strain.	Elongation.	Lamination.	Light gauge.	Heavy gauge.	Reduced area.	Bad surface.	Restamped at lower tensile strength.	Rejected.	Accepted.	Inspected.
D. H. Howard, Philadelphia, Pa	.....	.....	.....	.....	.....	.....	.....	50	.....	.....	50
Wm. A. Collins, Milwaukee, Wis	1	.....	.....	1	.....	.....	1	.....	3	232	235
E. G. Allen, Coatesville, Pa	9	.....	5	.....	3	.....	21	.....	38	1,886	1,924
D. J. Dougherty, Pittsburg, Pa	145	40	.....	20	11	57	72	4	345	1,211	1,556
Total	155	40	5	21	14	57	94	54	386	3,329	3,765
Total number plates inspected during fiscal year ended June 30, 1903	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6,105
Decrease, 1904 [a]	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2,340

[a] This decrease of nearly 40 per cent in number of plates inspected in 1904, as compared with 1903, was due to stagnation in construction of merchant ships, and consequent decrease in demand for boiler plates.

During the year there were 112 requests received from other branches of the Government service for detail of inspectors to test material at mills for use in construction of Government vessels, and for steam equipment in public buildings of the United States, also numerous requests for inspection of vessels for the War and other Departments of the Government. These requests were always courteously and promptly complied with, and reports rendered to the officials making such requests.

Total number of accidents resulting in loss of life during the year ended June 30, 1904.

Cause.	Number.
Fire	8
Collisions	13
Breaking of steam pipes, mud drums, etc	6
Explosions	3
Snags, wrecks, and sinking	16
Accidents to machinery	
Total	46

Decrease over previous year of 3.

Total number of lives lost by accident from various causes during the year ended June 30, 1904.

Cause.	Number.
Fire	978
Collisions	21
Breaking of steam pipes, mud drums, etc	6
Explosions or accidental escape of steam	13
Snags, wrecks, or sinking	153
Accidental drowning	100
Miscellaneous causes	32
Total	1,303

Increase over previous year of 1,011.

This appalling increase of 346 per cent in the loss of life over the previous fiscal year is due to six disasters which occurred during the year, and which marks perhaps the worst period in the history of the Service. These disasters were the stranding of the steamer *South Portland* on Cape Blanco, Oregon, on October 19, 1903, by which 19 lives were lost; the foundering of the steamer *Discovery* off the southeastern coast of Alaska about November 1, 1903, with a loss of 30 lives; the foundering of the steamer *Clallam* in the Straits of San Juan de Fuca on January 8, 1904, when 50 lives were lost; the fire on board the steamship *Queen*, which threatened the destruction of that steamer off the coast of Oregon on February 27, 1904, when the lives of 14 of those who embarked in the lifeboats were lost by the staving or capsizing of the boats; the explosion of the boilers of the towboat *Fred Wilson* at West Louisville Harbor, Kentucky, on May 26, 1904, attended by the loss of 11 lives, and the burning of the steamer *General Slocum* in the East River, New York, on June 15, 1904, by which disaster 957 persons perished. The narrative of this last and most deplorable calamity, together with the details of almost every incident connected therewith, has been given publicity through the report of the commission appointed by the honorable the Secretary of Commerce and Labor to investigate the disaster, and while nothing that I may say at this time can add to the interest or importance of that report, I can not allow the matter to pass without offering something more upon the subject.

I desire, in the first place, to call your attention to the construction of the steamer, which is typical of the excursion steamers of the

country generally, and of New York in particular; highly inflammable, of large capacity, and carrying at times the full allowance of passengers; often, as in the case of the *Slocum*, a very large proportion of whom are women and children, and in many instances more children than adults. Of the 1,358 passengers on the *Slocum* 745 were children, but it is clearly manifest that, notwithstanding this peculiar condition, no extra precautions were taken to promote the safety of this large complement of women and children or to provide them with substantial care.

The emergency that preceded the disaster that compassed the death of so many of the passengers should have been met promptly and the disaster averted by a crew drilled to meet just such contingencies; but total lack of discipline and absence of prompt action under efficient direction turned what should have been successful effort into disastrous confusion and failure. I would suggest, therefore, that the matter of crew efficiency be made the subject of legislation, with a view to providing authority for local inspectors of steamboats to designate the number and character of a vessel's crew, in order to guard against the employment of undisciplined and inefficient crews, as well as against unlicensed or incompetent officers. I would also suggest that legislation governing construction of passenger steamers be made a special subject for the consideration of Congress, with a view to making such construction as nearly fireproof and as nearly unsinkable as utility will permit.

Lives lost, classified according to supervising inspection districts.

District.	Fire.	Collisions.	Explosions or accidental escape of steam.	Breaking of steam pipes, mud drums, etc.	Snags, wrecks, or sinking.	Accidental drowning.	Miscellaneous.	Total.
First	14	2	1		103	17	6	143
Second	980	13	1		2	13	8	997
Third		2		2		10	4	18
Fourth	1					2	2	5
Fifth		2				4	2	8
Sixth	2		11	1		8	1	23
Seventh		1		1	5	21	3	31
Eighth				1	16	8	3	28
Ninth	1	1		1		2	2	7
Tenth					27	15	1	43
Total	978	21	13	6	153	100	32	1,303

The text of the Sixteenth Annual Report on the Statistics of Railways in the United States for the year ended June 30, 1903, prepared by the statistician to the Interstate Commerce Commission, gives the number of passengers carried on all the railways of the United States for the year ended June 30, 1903, as 694,891,535, and the number of lives lost as 9,840, or 1 for every 70,620 passengers carried. The estimated number of passengers carried on steamers under the jurisdiction of this Service for the same period is about 550,000,000, with a loss of 292 lives, or 1 for every 1,883,561 passengers carried.

The same estimate of passengers carried on steamers for the fiscal year ended June 30, 1904, with a loss of 1,303 lives, gives a ratio of 1 life lost for every 422,102 passengers carried, which, compared with the loss of life on the railroads, make it quite apparent that trans-

portation by water is not the most doubtful risk, and that it is the safest of the many methods of transportation.

A reference to these statistics proves conclusively that the officers of this Service could not have been entirely derelict in their duties, and while the Service has passed through a most crucial ordeal of criticism by reason of recent unfortunate disasters, the conditions and comparisons justify the conclusion that the Steamboat-Inspection Service is still an important and necessary bureau of the Government, and that its field has been well covered.

The following is a partial summary of the work in the office of the Supervising Inspector-General during the fiscal year ended June 30, 1904:

Communications received, recorded, indexed, and action noted in each case	9,389
Acknowledgment cards received and recorded	577
Office letters written	4,441
Indorsements and references on papers submitted to or passing through this office	597
Letters prepared for Secretary's signature	236
Department letters authorizing expenditures	144
Permits for use of oil as fuel on steamers	64
Temporary permits for use of coil boilers	3
Reports of tensile tests of steel plates and affidavits recorded and filed	1,252
Reports of excursion permits	2,135
Personal expense accounts examined and passed	1,392
Miscellaneous accounts examined and passed	303
Reports of casualties and violations of the law recorded and filed	972
Weekly reports of local inspectors examined and checked	2,308
Quarterly statement of customs officers and inspectors examined, checked, and recorded	752
Annual reports of inspectors of lifeboat and life-raft equipment of vessels over 100 tons	44
Semimonthly reports of vessels visited by supervising inspectors	238
Statement of public property charged to Service, received, examined, and checked	112
Reports of life-preservers examined	137

Examinations for color blindness.

Total number of applicants examined for color blindness	1,694
Number found color blind and rejected	40
Number passed	1,654
Decrease in number of applicants examined over last year	172
Decrease in number of applicants passed over last year	149
Total number of officers, all grades, licensed during fiscal year ended June 30, 1904	7,939
Total number licensed previous year	20,062
Decrease from previous year	12,123

Number of officers licensed during the fiscal year ended June 30, 1904.

Local district.	Masters.	Masters of steam yachts.	Mates of ocean steamers.	Mates of river steamers.	First-class pilots.	Second-class and special pilots.	Chief engineers.	Assistant engineers.	Special engineers.	Joint pilots and engineers.	Engineers of motor vessels other than steam.	Masters of sail vessels over 700 gross tons.	Mates of sail vessels over 700 gross tons.	Masters or mates of vessels and barges over 100 gross tons.	Total of all grades.
San Francisco, Cal	158	....	129	8	19	28	115	187	3	....	52	60	31	6	796
Juneau, Alaska	16	....	3	2	3	18	11	35	6	1	3	....	....	....	103
Portland, Oreg	23	....	3	17	3	30	26	29	7	1	6	....	1	....	146
Seattle, Wash	109	....	58	....	2	48	60	70	8	5	23	30	24	....	437
New York, N. Y	246	3	88	3	97	72	317	205	7	1	20	26	8	20	1,113
Albany, N. Y	6	....	....	1	2	22	26	49	10	12	....	....	1	....	129
Bangor, Me	9	....	....	....	1	17	3	10	5	....	....	6	1	....	52
Boston, Mass	86	....	34	1	44	43	71	92	15	8	16	45	25	....	480
New Haven, Conn	6	....	....	....	10	20	13	6	3	....	22	4	1	....	85
New London, Conn	13	....	1	....	13	22	31	13	4	3	13	3	....	....	116
Philadelphia, Pa	40	....	11	....	14	25	60	56	5	2	19	9	2	....	243
Portland, Me	24	....	1	....	14	21	29	19	6	2	3	17	6	....	142
Providence, R. I	15	....	4	....	15	31	32	39	8	1	26	20	4	....	195
Norfolk, Va	53	....	6	....	21	49	26	48	8	3	5	10	2	....	231
Baltimore, Md	50	....	22	....	68	48	54	54	5	6	26	28	....	....	365
Charleston, S. C	13	....	2	....	2	19	7	19	1	9	4	1	....	....	71
Jacksonville, Fla	5	....	2	1	3	17	4	20	9	4	10	....	....	....	77
Savannah, Ga	23	....	3	....	12	11	13	11	1	3	1	5	1	....	80
St. Louis, Mo	32	....	....	48	49	....	40	34	10	2	7	....	....	....	222
Dubuque, Iowa	20	....	....	13	5	18	8	27	5	2	13	....	....	....	111
Duluth, Minn	22	....	....	....	20	18	13	15	4	6	....	....	....	....	98
Louisville, Ky	3	....	....	10	9	5	11	10	....	....	1	....	....	....	49
Evansville, Ind	8	....	....	23	12	18	9	14	....	....	5	....	....	....	89
Memphis, Tenn	10	....	....	16	3	11	12	12	1	....	....	....	....	....	70
Nashville, Tenn	7	....	....	22	7	6	4	7	....	....	....	....	....	....	53
Cincinnati, Ohio	16	....	....	52	8	....	6	5	....	4	2	....	....	....	93
Gallipolis, Ohio	18	....	....	53	15	7	14	17	....	....	....	....	....	....	124
Pittsburg, Pa	22	....	....	60	12	5	23	28	11	1	....	....	....	....	162
Wheeling, W. Va	5	....	....	15	4	4	5	4	....	....	....	....	....	....	37
Detroit, Mich	15	....	....	....	23	28	38	31	5	1	1	....	....	....	142
Chicago, Ill	22	....	....	....	31	25	29	30	4	7	13	....	....	....	161
Grand Haven, Mich	6	....	....	....	14	27	29	35	1	6	1	....	....	....	119
Marquette, Mich	7	....	....	....	9	7	3	8	3	....	....	....	....	....	37
Milwaukee, Wis	12	....	....	....	16	33	18	28	7	6	1	....	....	....	121
Port Huron, Mich	43	....	....	....	41	58	40	43	2	10	1	....	....	....	238
Cleveland, Ohio	13	....	....	....	25	6	27	27	2	1	....	....	....	....	101
Buffalo, N. Y	24	....	....	....	27	37	48	41	8	4	....	....	....	....	189
Burlington, Vt	1	....	....	....	4	7	2	5	3	2	....	....	....	....	24
Oswego, N. Y	14	....	....	....	18	16	11	13	1	1	....	....	....	....	74
Toledo, Ohio	6	....	....	....	16	1	5	11	....	....	....	....	....	....	39
New Orleans, La	52	....	11	38	26	73	56	89	14	9	10	....	....	....	378
Apalachicola, Fla	24	....	7	2	3	18	12	13	3	....	3	....	....	....	85
Galveston, Tex	12	....	6	....	9	22	6	23	4	4	8	1	....	....	95
Mobile, Ala	25	....	3	1	17	30	28	32	1	7	9	2	3	....	158
Total	1,334	3	399	386	771	1,021	1,395	1,564	200	139	324	267	110	26	7,939

The act of Congress approved May 28, 1896, extended the term of license to officers of steam vessels from one to five years, consequently the fiscal years ended June 30, 1897–98 and 1902–3, show approximately the actual number of officers holding marine license, and the number licensed during the intervening years between the five-year periods are licenses granted for raise of grade and original or new licenses.

Annual certificates of inspection issued to vessels propelled by steam, sail, or other motors during fiscal year ended June 30, 1904.

Supervising district.	Local district.	Foreign steamers.		Domestic steamers.		Motor vessels.		Total.		Sail vessels and barges.		Grand total.	
		Number.	Gross tonnage.	Number.	Gross tonnage.	Number.	Gross tonnage.	Number.	Gross tonnage.	Number.	Gross tonnage.	Number.	Gross tonnage.
First district	San Francisco, Cal	8	33,448	309	291,700	34	2,362	351	327,510	94	120,484	445	447,994
	Portland, Oreg	2	10,088	163	34,494	4	145	169	44,727	13	14,440	182	59,167
	Seattle, Wash	11	36,844	305	103,282	7	409	323	140,535	70	78,757	393	219,292
	Juneau, Alaska[a]	1	192	208	27,492	5	307	214	27,991	2	3,927	216	31,918
Second district	New York, N. Y	191	1,237,629	1,244	547,638	16	570	1,451	1,785,837	74	68,109	1,525	1,853,946
	Albany, N. Y.[b]			211	42,097			211	42,097	7	2,049	218	44,146
	Philadelphia, Pa	9	49,780	334	184,805	2	72	345	234,666	40	58,119	385	292,785
	Boston, Mass	19	143,107	285	56,526	13	1,063	317	200,696	39	63,807	356	264,503
	Providence, R. I			184	61,578	5	100	189	61,678	11	15,100	200	76,778
	New London, Conn			121	38,396	9	239	130	38,635	2	2,420	132	41,055
	New Haven, Conn			126	19,536	10	273	136	19,809	2	2,137	138	21,946
	Portland, Me	4	33,695	168	26,111	4	259	176	60,065	39	53,181	215	113,246
	Bangor, Me	2	491	75	3,034			77	3,525	15	19,229	92	22,754
Third district	Norfolk, Va	1	4,958	247	40,621	4	114	252	45,693	19	26,380	271	72,073
	Baltimore, Md	10	61,367	306	133,642	15	1,015	331	196,024	35	37,438	366	233,462
	Charleston, S. C			113	11,901	2	45	115	11,946	6	5,616	121	17,562
	Savannah, Ga	1	3,169	103	37,266	2	49	106	40,484	22	21,138	128	61,622
	Jacksonville, Fla			72	7,776	4	152	76	7,928	1	856	77	8,784
Fourth district	St. Louis, Mo			156	32,926	10	238	166	33,164	2	793	168	33,957
Fifth district	Dubuque, Iowa			92	6,915	12	468	104	7,383	6	848	110	8,231
	Duluth, Minn	4	863	200	180,323	2	52	206	181,238	3	519	209	181,757
Sixth district	Louisville, Ky			59	10,845	4	166	63	11,011	6	665	69	11,676
	Evansville, Ind			89	11,808	4	148	93	11,956	3	1,083	96	13,039
	Nashville, Tenn			68	7,846			68	7,846	1	479	69	8,325
	Memphis, Tenn			86	10,922	3	105	89	11,027	1	114	90	11,141
Seventh district	Cincinnati, Ohio			56	13,922			56	13,922			56	13,922
	Gallipolis, Ohio			82	8,364			82	8,364			82	8,364
	Wheeling, W. Va			33	4,134			33	4,134			33	4,134
	Pittsburg, Pa			139	22,764			139	22,764	1	115	140	22,879
Eighth district	Detroit, Mich	5	1,114	145	98,098	1	19	151	99,231			151	99,231
	Chicago, Ill			207	219,005	3	70	210	219,075			210	219,075
	Grand Haven, Mich			202	41,212			202	41,212			202	41,212
	Marquette, Mich	4	1,970	104	14,536			108	16,506			108	16,506
	Milwaukee, Wis			278	232,890	1	22	279	232,912			279	232,912
	Port Huron, Mich	6	5,559	142	51,589	2	44	150	57,192			150	57,192
Ninth district	Cleveland, Ohio			214	359,318			214	359,318			214	359,318
	Buffalo, N. Y	15	28,250	345	347,068			360	370,318			360	370,318
	Burlington, Vt	2	1,553	43	3,381			45	4,934			45	4,934
	Oswego, N. Y	23	6,311	133	26,235			156	32,546			156	32,546
	Toledo, Ohio	4	2,949	97	40,154			101	43,103			101	43,103

Tenth district	New Orleans, La	38	118,632	344	57,207	7	215	389	176,054	3	3,071	392	179,125
	Apalachicola, Fla			74	9,502	1	20	75	9,522			75	9,522
	Galveston, Tex	7	35,280	88	50,593	9	274	104	86,147	3	3,905	107	90,052
	Mobile, Ala	8	9,622	146	16,074	11	376	165	26,072	4	3,147	169	29,219
	Total	375	1,821,880	8,196	3,545,526	206	9,391	8,777	5,376,797	524	607,926	9,301	5,984,723
	Total, 1903											9,326	5,536,803
	Decrease in number of vessels, 1904.											25	
	Increase in tonnage, 1904.												447,920

[a] One sail, 2 motors, and 29 steamers, with 12,389 gross tonnage, inspected in Hawaiian waters.
[b] Ten of these steamers, with 3,555 gross tonnage, inspected in Porto Rican waters.

Classification of inspections, tonnage, and officers licensed, according to several divisions of navigation, for fiscal year ended June 30, 1904.

Division.	Vessels inspected.										Number and character of officers licensed.			
	Foreign steamers.		Domestic steamers.		Motor vessels.		Sail vessels and barges.		Total.					
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Steam vessels.	Motor vessels.	Sail vessels.	Total.
Pacific coast	22	80,572	985	456,968	50	3,223	179	217,608	1,236	758,371	1,246	84	152	1,482
Atlantic coast	237	1,534,205	3,589	1,210,927	86	3,951	312	375,579	4,224	3,124,662	2,978	165	245	3,388
Western rivers	4	863	914	132,854	35	1,177	23	4,616	976	139,510	982	28		1,010
Northern lakes	59	42,706	2,056	1,611,401	7	155			2,122	1,654,262	1,326	17		1,343
Gulf coast	53	168,534	652	133,376	28	885	10	10,123	743	307,918	680	30	6	716
Total	375	1,821,880	8,196	3,545,526	206	9,391	524	607,926	9,301	5,984,723	7,212	324	403	7,939

The preceding statement of the number of vessels inspected during the fiscal year ended June 30, 1904, shows an increase of 15 in the number of foreign vessels inspected over that of the previous fiscal year, with an increase of tonnage of 155,226, and a decrease in the number of domestic steamers inspected of an even 100, with an increase of tonnage of 286,405, which shows a healthy growth in the carrying capacity of the commerce of this country during the past fiscal year.

On the Pacific coast during the fiscal year ended June 30, 1904, there was a decrease of 7 in the number of foreign vessels inspected, with a decrease in tonnage of 44,140 tons, and an increase of 1 domestic steamer, with an increase in tonnage of domestic steamers inspected of 140,694 over that of previous fiscal year.

On the Atlantic coast there was an increase of 21 in the number of foreign steamers inspected over the previous fiscal year, with an increase of tonnage of 187,115, and a decrease of 70 in number of domestic steamers inspected, with an increase in tonnage of 13,109 tons.

On the Great Lakes there was a decrease of 2 in number of foreign steamers inspected, with a decrease in tonnage of 4,324, and a decrease of 39 in the number of domestic steamers inspected, with an increase in tonnage of 132,027.

On the western rivers there was the same number of foreign steamers inspected, with an increase of 44 tons, and a decrease of 4 in the number of domestic steamers inspected, with a decrease in tonnage of 4,638 tons.

On the Gulf coast there was an increase of 4 in foreign steamers inspected, with an increase of 16,531 tons, and an increase of 12 in the number of domestic steamers inspected, with an increase of 5,213 tons.

During the fiscal year ended June 30, 1904, there were 206 motor vessels inspected, with a capacity of 9,391 tons, which is an increase over previous fiscal year of 53 vessels, with increase of 2,541 in tonnage. In this connection, I desire to call attention to the fact of the small number of motor vessels that come under the jurisdiction of this Service under the present law, as compared with the numerous vessels of this class that, without any of the restrictions of law which govern and regulate the careful navigation of all vessels propelled by steam power; and all vessels of above 15 gross tons propelled by naphtha, gas, and other such means of propulsion carrying freight or passengers for hire, are permitted to navigate and compete with regularly licensed vessels carrying licensed officers, and are a constant menace to the lives and property not only of those employing them, but to those vessels regularly inspected and licensed by the Government. It is sincerely to be hoped that the early action of Congress will place some proper restrictions on all these motor vessels, making them equally responsible to the public for safe navigation as other vessels now under the supervision of the inspection laws.

If it is contemplated to adopt the standard of inspection suggested by the report of the *Slocum* commission, I would respectfully recommend that the force of inspectors in this Service be increased at least 50 per cent, the increase to apply to those ports where it is most demanded, and which may be determined hereafter.

I also desire to express my appreciation of the interest, fidelity, and intelligent assistance of the chief clerk of the Bureau, which has

always been cheerfully extended, and for the untiring zeal and application of himself and the entire clerical force of this office, a condition which has largely contributed to the maintenance of the efficiency of the Bureau with the limited force at my command.

There are attached hereto, for the information of the honorable Secretary and of Congress, the reports of the various supervising inspectors of districts made to the Supervising Inspector-General for the calendar year ended December 31, 1903; also a detailed list of foreign passenger steamers inspected during the fiscal year ended June 30, 1904.[a]

GEO. UHLER,
Supervising Inspector-General.

Hon. V. H. METCALF,
Secretary of Commerce and Labor.

---

[a] NOTE.—The list of inspections of domestic and foreign vessels made during the fiscal year ending June 30, 1904, was printed in the Annual Report of the Supervising Inspector-General, but has been omitted from this compilation.

The list of inspections of domestic vessels shows, by districts, the class and name of vessels inspected, when hull was built and rebuilt, when boilers were built and rebuilt, where vessel was built, date of last inspection, date of previous inspection, where last inspected, and gross tonnage.

The list of foreign vessels inspected shows, by districts, the name, gross tonnage, nationality, and date of inspection of each vessel.

APPENDIX.

ANNUAL REPORTS OF SUPERVISING INSPECTORS.

FIRST DISTRICT.

STEAMBOAT-INSPECTION SERVICE,
OFFICE OF U. S. SUPERVISING INSPECTOR,
San Francisco, Cal., January 18, 1904.

SIR: In compliance with the provisions of section 4410, Revised Statutes, I submit the following report of the general business transacted in the first supervising district during the year ended December 31, 1903:

Vessels inspected, added to service, etc.

Local district.	Inspected.		New vessels added to service.		Gone out of service.		Gone into other districts.	
	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.
San Francisco, Cal.	445	449,708	31	19,902	6	3,108	17	31,045
Portland, Oreg.	169	58,707	18	2,704	4	525	5	885
Seattle, Wash.	392	235,305	33	7,563	4	1,364	.....	.....
Juneau, Alaska	218	32,394	.....	.....	4	611	1	97
Total	1,224	776,114	82	30,169	18	5,608	23	32,027
Total in previous year	1,216	699,085	103	38,930	17	8,802	25	15,483
Decrease	.....	.....	21	8,761	.....	3,194	2	.....
Increase	8	77,029	.....	.....	1	.....	.....	16,544

Boilers inspected.

Local district.	Number inspected.	Number defective.	Number condemned.	Defects in boilers and attachments.				
				Sheets.	Steam and mud drums.	Steam pipes.	Flues and tubes.	Boiler heads.
San Francisco, Cal.	714	15	1	.....	.....	.....	.....	.....
Portland, Oreg.	158	.....	.....	.....	.....	.....	.....	.....
Seattle, Wash.	437	13	.....	.....	.....	.....	.....	.....
Juneau, Alaska	276	3	.....	.....	.....	.....	.....	.....
Total	1,585	31	1	.....	.....	.....	.....	.....
Total in previous year	1,621	27	4	.....	.....	.....	.....	.....
Decrease	36	.....	3	.....	.....	.....	.....	.....
Increase	.....	4	.....	.....	.....	.....	.....	.....

Officers licensed.

Local district.	Steam and other motor vessels.							Sail vessels and barges.		Total.
	Masters.	Masters and pilots.	Mates.	Mates and pilots.	Pilots.	Joint pilots and engineers.	Engineers.	Masters.	Chief mates.	
San Francisco, Cal	46	133	126	.....	59	.....	393	49	28	834
Portland, Oreg	3	31	23	.....	33	2	87	.....	1	180
Seattle, Wash	44	84	78	.....	63	10	184	28	29	520
Juneau, Alaska	4	10	9	2	19	2	64	.....	.....	110
Total	97	258	236	2	174	14	728	77	58	1,644
Total in previous year	167	1,024	339	13	248	34	1,502	78	81	3,486
Decrease	70	766	103	11	74	20	774	1	23	1,842

Violations of the steamboat laws.

Local district.	Investigations.					Appeals.			
	Cases investigated.	Dismissed.	Licenses suspended.	Licenses revoked.	Cases reported to district attorney and to chief officers of customs.	Number of appeals.	Decisions revoked.	Decisions modified.	Decisions sustained.
San Francisco, Cal	23	12	16	5	1	5	.....	2	1
Portland, Oreg	5	1	.....	5	3	4	.....	4	.....
Seattle, Wash	3	2	1	.....	.....	.....	.....	.....	.....
Juneau, Alaska	4	.....	3	.....	1	.....	.....	.....	.....
Total	35	15	20	10	5	9	.....	6	1
Total in previous year	25	9	14	7	1	8	.....	3	1
Increase	10	6	6	3	4	1	.....	3	.....

Expenditures during the year ended December 31, 1903.

District.	Salaries.	Traveling expenses.	Incidentals.	Total.
Supervising inspector, first district	$3,000.00	$503.40	$250.10	$3,753.50
San Francisco, Cal	13,851.02	1,450.00	44.20	15,345.22
Portland, Oreg	4,600.00	1,809.60	6.00	6,415.60
Seattle, Wash	7,701.46	1,144.90	19.00	8,865.36
Juneau, Alaska	5,200.00	4,535.65	354.25	10,089.90
Aggregate	34,352.48	9,443.55	673.55	44,469.58

Samples of steel and iron tested for material to be used in marine boilers in first district for the year ended December 31, 1903.

Local district.	Whole number tested.	Samples of steel.	Samples of iron.	Steel failed in tensile strength.	Iron failed in tensile strength.	Steel failed in reduction of area.	Iron failed in reduction of area.	Failed in elongation.
San Francisco, Cal	76	76	.....	10	.....	1	.....	3
Portland, Oreg	31	31	.....	.....	.....	2	.....	.....
Total	107	107	.....	10	.....	3	.....	3

MISCELLANEOUS.

In addition to the regular annual inspections the following boilers were inspected on United States Government steamers and in United States Government buildings during the year ended December 31, 1903:

Local inspection district.	Name of steamer or building.	Port where inspected.	Date inspected.	Number of boilers inspected.
	STEAMERS.			
San Francisco, Cal...	Genl. Alexander	San Francisco, Cal..	Jan. 30	1
Do	Geo. H. Sternberg	do	Mar. 7	1
Do	Sumner	do	Apr. 2	3
Do	Sumner No. 1	do	Apr. 18	1
Do	Light-ship No. 70	do	Apr. 20	2
Do	Sherman	do	June 10	4
Do	Sherman No. 1	do	June 15	1
Do	Sheridan	do	do	3
Do	Sheridan No. 2	do	do	1
Do	Sheridan No. 3	do	do	1
Do	Sheridan	do	June 16	1
Do	Logan	do	Aug. 18	3
Do	Logan No. 2	do	do	1
Do	Logan	do	Aug. 24	1
Do	Buford	do	do	3
Do	Slocum	do	Oct. 3	3
Do	General De Russy	San Diego, Cal.	Oct. 24	1
Do	Madrono	San Francisco, Cal..	Nov. 11	1
Portland, Oreg	Major Guy Howard	Portland, Oreg	Mar. 16	1
Do	Manzanita	Astoria, Oreg	Apr. 27	1
Seattle, Wash.	Burnside	Seattle, Wash.	Dec. 23	1
Do	do	do	Dec. 29	1
	BUILDINGS.			
San Francisco, Cal...	New post-office	San Francisco, Cal..	Feb. 12	3
Do	do	do	Feb. 21	2

CASUALTIES, INVESTIGATIONS, AND VIOLATIONS OF LAW.

LOCAL DISTRICT OF SAN FRANCISCO, CAL.

1902.

December 24.—The bark *Alexander McNeil*, 1,122 gross tons, on voyage from Manila to Port Townsend, Wash., was wrecked on Pratas Reef, China Sea. No lives lost. Value of vessel and cargo, unknown.

1903.

January 9.—Steamer *Pomona* collided with the United States steamer *Marblehead* in a dense fog on Bay of San Francisco. *Pomona* damaged to extent of about $2,500. Case investigated and master of *Pomona* was exonerated January 24.

January 20.—Steamer *Leader* collided with schooner *Cinderella* at anchor in channel near Benicia at 5.15 a. m. The schooner is alleged to have displayed no lights nor made any signal. Bowsprit of schooner cracked or broken, and the starboard engine of steamer wrecked. Total damage, about $500.

January 21.—Steamer *Dover* was snagged in Sacramento River, near Platts Bend. Damage, $200.

January 22.—Steamers *Aberdeen* and *Tiburon* collided in Bay of San Francisco, causing damage of about $500 to steamer *Tiburon*. Case investigated. The testimony on material points was so conflicting that blame could not be attached to the pilot of either vessel.

January 30.—Steamer *Crescent City*, 297 gross tons, struck on Fish Rocks, near Point Arena, Cal., at 2 a. m., and became a total loss. The steamer was valued at $45,000. No lives lost. Case was investigated, and license of Herman T. Payne, master, was suspended February 16 for 30 days for not maintaining strict discipline on board; and the license of Capt. Otto Olsen, who was chief mate and in charge of the deck, was same date revoked for negligence and unskillfulness in navigation of the steamer.

February 8.—Steamer *Brunswick*, 436 gross tons, while lying at moorings in the open port of Fort Bragg, Cal., parted her stern lines, became disabled, and went ashore, and was reported to be a total loss, but was subsequently towed to San Francisco, lengthened and rebuilt at an expense of about $35,000. Officers and crew were saved by use of line projectile on board. No lives were lost.

February 10.—The steamers *Transit* and *Thoroughfare* collided in a dense fog on Bay of San Francisco, causing damage of about $3,500 to the former and $1,200 to the latter. Case investigated, and on March 9 the license of James McLean, master and pilot of the *Transit*, and that of Ludwig Erdman, master and pilot of the *Thoroughfare*, were each suspended for 10 days for violating Rule IV of the pilot rules and regulations.

February 10.—Mr. E. W. Dean, passenger, steamer *Arcata*, on voyage from San Francisco to Coos Bay, Oregon, was missed from on board when near Coos Bay. He was sick from excessive drinking and it is believed he fell overboard.

February 21.—Steamer *Rival* and schooner *General Banning* collided lightly in a dense fog, off San Francisco bar. The proper fog signals were being sounded by both vessels.

March 19.—Steamer *Varuna*, 230 gross tons, was burned on Sacramento River, near Meriden Landing, sunk, and was a total loss. Was valued at $24,000. The fire was caused by a coal-oil safety lamp dropping from its fastening to the cabin floor. Prompt efforts were made to extinguish the fire, but it spread rapidly to the hull and thence to the oil-fuel tanks. No lives lost. The lamp oil used on board was mineral seal; fire test, 300° F.

March 23.—Steamers *Transit* and *Thoroughfare* collided on Bay of San Francisco. Case investigated, and the licenses of Jens C. Bruun, and William M. Brisco, masters and pilots of those steamers, respectively, were each suspended April 9 for 6 months for violation of Rule III of the pilot rules and regulations. Total damage to steamers, $2,000. On May 7 Captain Brisco appealed to the supervising inspector first district, who, on May 25, sustained the decision of the local board.

March 25.—Steamer *Noyo* and schooner *Nellie Rich*, in tow of steamer *Amalie*, collided lightly on Bay of San Francisco. Damage nominal. Case investigated and no blame attached to the pilot of either steamer.

March 28.—Mr. George Cathcart, boat steerer, whaling steamer *Bowhead*, fell overboard from the bowsprit at sea, in latitude 42° N., longitude 149° W. A boat was promptly lowered and reached him just as he sunk from view.

April 3.—Steamer *Albion River*, 382 gross tons, struck on Bodega Head, California, in a thick fog, and became a total wreck. No lives lost. Vessel was valued at $50,000, and her cargo at $4,000. Case investigated, and on May 1 the licenses of Capt. John Bash, master, and Capt. John G. Hagen, chief mate of the *Albion River*, were suspended each for 1 year for unskillfulness and negligence. Captain Bash appealed to the supervising inspector first district, on May 21, and withdrew said appeal on August 25.

April 5.—Steamer *Alliance* struck on a rock near Point Gorda, California, causing damage to the amount of about $2,500 to the steamer and $1,200 to her cargo. Case investigated and license of Capt. E. N. Hardwick, master, suspended May 2 for 60 days for unskillfulness and negligence.

April 9.—Mrs. H. A. Friedlander, passenger, steamer *Arctic*, was missed from on board, at sea, off Shelter Cove, Cal. Diligent search was made, but without finding her.

April 22.—In returning to steamer *Fulton*, which was moored at Bowens Landing, California, one of the steamer's boats capsized and Percy Oliver, seaman, was drowned.

May 1.—Steamer *Ruth*, 377 gross tons, struck a sunken rock off the mouth of Coquille River, Oregon. Case investigated, and the license of Capt. Alfred Reed, master, was suspended May 27 for 60 days for unskillfulness.

May 17.—Walter Kervick, passenger, steamer *City of Stockton* was missed from on board, about 7 miles above Antioch, San Joaquin River, California, and it is believed he fell overboard and drowned.

May 20.—Sworn charges were filed alleging that Charles Borg, to whom was granted on January 23, 1903, a license as chief mate of ocean steam vessels, had made fraudulent statements in his application therefor to this board. Case was referred to the United States attorney, and Mr. Borg was convicted in the United States district court and sentenced April 28, 1903, to 4 months' imprisonment. License was revoked May 18 and subsequently canceled.

May 22.—While the foresail of steamer *Whitesboro* was being jibed Mr. A. Steinhager, seaman, was pulled overboard by the fore sheets and was drowned.

Case investigated. No blame attached to the master or to officer in charge at the time.

May 31.—Steamer *Santa Cruz* struck Constantine Rock, off Cayucos, Cal., in a fog. Vessel damaged to amount of about $800. Case investigated, and Capt. J. C. Eagles, master, was exonerated June 12.

June 5.—Steamer *St. Helena* and United States steamer *Gen. Alexander* collided on Bay of San Francisco. Damage nominal. Case investigated on complaints of respective masters, which were not sustained.

June 10.—Steamers *Isleton* and *Modoc* collided lightly at Sherman Island, California. Master of steamer *Isleton* failed to appear on notification, and case was dismissed.

June 13.—In procedure of steamer *San Joaquin No. 4* picking up a second barge, the loss of Mr. Thomas N. Roberts from barge *Sutterville*, in tow, was discovered. Search was made for Mr. Roberts, but without success.

June 18.—The steamer *Onisbo* collided with the British ship *Castle Rock* at anchor in Carquinez Straits, California. Damage to steamer, about $2,000; to ship not known. Case investigated, and the license of William C. Jarvis, pilot of the *Onisbo*, was suspended July 13 for 6 months for negligence and unskillfulness.

June 21.—As the steamer *Priscilla* was nearing her berth at San Francisco, two passengers, Mr. Paulsen and Mr. Sellinger, fell overboard and were drowned, though immediate efforts were made to rescue them. It appears that one of them was sitting on the steamer's rail, when the other made a sudden lurch against him and both went overboard together. No blame could be attached to the officers of the steamer.

June 25.—The gasoline boat *Bolinas*, 23 tons, struck a sunken snag near Isleton, in Sacramento River, California. Vessel was beached and repaired. Damage, slight.

July 28.—Steamers *J. D. Peters* and *Mary Garratt* collided in New York Slough, San Joaquin River, California. Damage, slight.

August 19.—Steamer *Del Norte* collided with the brig *William G. Irwin* at anchor in Bay of San Francisco, 10.25 p. m. No lights were discernible on brig by the master of the *Del Norte*. Damage to steamer, very slight.

August 23.—Freight steamer *Whittier* was damaged by fire in her oil-burning apparatus to amount of about $300, while lying at San Francisco, owing to a fault in the heater tank. This fault had been reported by the chief engineer to the owners of the *Whittier*, and has been corrected since the above occurence. Case investigated, and Mr. H. R. Beckett, second assistant engineer, in charge at the time, was exonerated from blame October 5.

August 26.—Arthur H. Scott, master of the bark *Gerard C. Tobey*, charged by William P. Canty, chief mate, with misconduct and violence at sea August 4. Case investigated by the supervising inspector first district, the local inspectors being absent on leave. Charges sustained, and license of Captain Scott suspended August 8 for 40 days. The testimony further showed that the complainant, Canty, was the aggressor and used foul language to the master, and his license was likewise suspended for 40 days.

August 29.—Mr. G. Moralia, deck hand on steamer *Jacinto*, accidentally fell overboard at Sacramento, Cal., and was drowned, though prompt efforts were made to save him.

September 4.—While steamer *Umatilla* was lying at San Francisco low water was discovered in her donkey boiler. Case investigated, and the licenses of John W. Haughton, second assistant engineer, and Robert E. Gore, third assistant engineer, were suspended September 21, each for 15 days, for inattention to their duties. The testimony did not enable the inspectors to place the responsibility directly or solely upon any one of the licensed officers. Damage to boiler estimated at about $750.

September 11.—Upon inspection of steamer *San Pedro*, at San Francisco, assistant inspector of hulls, Thomas P. Deering, discovered by the steamer's log that boat and fire drills had not been held on board since July 22. as required by section 15, Rule V, of the general rules and regulations of this Service. The case was immediately investigated, and the license of the master, Jacob D. Jacobs, was revoked September 11. Captain Jacobs appealed September 12 to the supervising inspector first district, who modified, on September 19, the revocation of Captain Jacobs's license to a suspension of same for 14 days.

September 20.—Steamer *Mary Garratt* collided with schooner *Henrietta M*, near Deep Water Point, San Joaquin River, California. Case duly set for inves-

tigation October 8. Master of schooner failed to appear according to notification, and case was dismissed.

October 1.—C. F. Christensen, pilot of steamer *Aurora*, charged with violation of Rule VIII of the pilot rules and regulations September 28. Mr. Christensen made a sworn admission of the truth of the complaint and his license was suspended October 9 for 10 days.

October 9.—The gasoline boat *Admiral*, 27 tons, capsized in a squall on Bay of San Francisco. Emil Larsen, engineer, and Charles McLeod, a passenger, were drowned. Case investigated and the master, Charles Gustafson, was exonerated October 21.

October 12.—A passenger, name unknown, jumped overboard from the steamer *Columbia* in Suisun Bay, California. Prompt efforts were made to save him, but without success.

October 15.—John Gill, chief mate of schooner *W. F. Garins*, charged with misconduct during voyage from Tacoma, Wash., September, 1902, to Manila, P. I., and at Manila. Sworn denial of the charges was filed November 19, 1903. Case to be investigated when practicable.

October 17.—Steamer *Thoroughfare* collided with a schooner, name unknown, in a dense fog on the Bay of San Francisco. No bell was heard sounding from the schooner.

October 17.—The ferry steamers *Newark* and *Oakland* collided lightly in a dense fog on the Bay of San Francisco. Case investigated, and the pilots in charge on the respective steamers were exonerated December 10.

October 18.—Mr. R. Chestnutwood, passenger, steamer *T. C. Walker*, lying at Tretheways Landing, San Joaquin River, fell overboard and was drowned, though prompt efforts were made to rescue him.

October 19.—Steamers *St. Helena* and *General Frisbie* collided lightly near Vallejo, Cal. The steering gear of the *St. Helena* had become suddenly disabled, causing her to sheer and strike the *General Frisbie* a glancing blow.

October 19.—Steamer *Iaqua* in a dense fog struck on rocks at Punta Corda, Cal., causing damage to amount of about $5,000 to the vessel. Case investigated, and the master, Samuel Bonifield, was found to have been negligent and unskillful. For reason thereof his license would have been suspended, but as the investigation developed the fact that fire and boat drills had been omitted on board the *Iaqua*, his license was revoked November 4 for violation of section 15, Rule V, of the rules and regulations. Captain Bonifield appealed November 13 to the supervising inspector first district, who on December 28, 1903, modified the decision of the local board to a suspension of license for 75 days from and after October 27, 1903, i. e., 60 days for negligence and unskillfulness in navigation of steamer *Iaqua* and 15 days additional for neglecting to have fire and boat drills on that vessel for over two months prior to October 19, 1903, as required by section 15, Rule V, of the rules and regulations.

October 19.—Steamer *South Portland*, 909 gross tons, struck on a rock near Cape Blanco, Oregon, in a thick fog, at 4.40 p. m., and sunk in 45 minutes afterwards. Eight passengers, 9 crew, and 2 stowaways lost their lives in this disaster, 5 of these dying from exposure on life rafts. The steamer was valued at $35,000 and her cargo at $27,000. This case was investigated, and the license of Capt. James B. McIntyre, master, was revoked on November 23 for reason of his unskillfulness and negligence in the navigation of the steamer and in his duties as master after the steamer struck. Moreover, he did not have fire and boat drills on board during the time he had command of this steamer. Captain McIntyre appealed from the decision of the local inspectors, and case is under advisement.

November 3.—During the night of November 2 four boys stole the steamer *Peerless*, 21 gross tons, from her wharf in Eureka, Cal., and steamed her to sea. Early in the morning of the 3d the steamer caught fire. The tug *Ranger* pursued the *Peerless*, rescued the boys, towed the burning steamer into Humboldt Bay, beached her, and extinguished the fire; but the vessel proved to be a total loss, and was valued at $4,000.

November 6.—Steamer *Charles Nelson*, 1,057 gross tons, encountered a heavy southeast gale November 4 and became water-logged, and was finally abandoned at sea off the mouth of Umpqua River, Oregon. All on board were saved by the steamer's lifeboats. The steamer was subsequently towed to San Francisco, and is estimated to have been damaged to the extent of $30,000. Case was investigated, and Capt. Thomas Gunderson, master, was exonerated November 28 from blame and was, further, highly commended for the ability and courage he evinced in his capacity as master of steam vessels on that occasion.

November 11.—Steamer *Ruth*, 377 gross tons, while lying at moorings at Bihlers Point Landing, Cal., an open port, the wire rope from the shore to the mooring buoy (to which the steamer's starboard bow line was fast) broke, causing her to strike a rock close under her port quarter. Means were at once taken to get the vessel from her dangerous position, but without success, and she drifted to shore and became a total loss. The *Ruth* was valued at $40,000. Case investigated, and the master, Alfred Reed, exonerated from blame November 30.

November 18.—The ferry steamer *San Jose* and steamer *Maggie* collided in a fog on Bay of San Francisco. Case under investigation.

November 24.—The ferry steamer *Sausalito* in a dense fog struck on Angel Island, Bay of San Francisco. Case under investigation.

December 6.—On voyage of steamer *Queen* from Victoria, British Columbia, November 5, Mrs. H. A. Oldt, a passenger, and her child, were missed from on board. Mrs. Oldt seemed despondent, and it is supposed she committed suicide by jumping overboard with her child.

December 14.—Nestor Norman, seaman, steamer *Alcatraz*, through his own action, in disregard of the order of the master, was accidentally drowned at sea, in latitude 34° 57′ N., longitude 121° 57′ W.

December 18.—Steamer *Del Norte* and schooner *Mary Buhne* collided at sea, off Humboldt Bay bar, California. The schooner sunk, and was valued at $4,000. All on board were saved by the boats of the *Del Norte*. The *Del Norte* was damaged to amount of about $100. In lowering one of the boats Seaman A. Falk, of the *Del Norte*, was drowned. Case investigated and the license of Frederic N. G. Nordberg, as chief mate of steam vessels, was suspended January 12, 1904, for 1 year for unskillfulness and negligence, he being on the above occasion in charge of the deck of the *Del Norte* as second mate.

December 31.—The second cook (Chinese) of steamer *Capt. Weber*, about 4 a. m., was struck by the pitman and was lost overboard on trip from Stockton to San Francisco.

LOCAL DISTRICT OF PORTLAND, OREG.

1903.

January 4.—While en route from Coal Creek, Washington, to Portland, Oreg., and near Deer Island, Columbia River, port crank pin on steamer *No Wonder* gave way, breaking crosshead, cylinder, and piston. Estimated damage, $800.

January 27.—At 11.30 a. m., while the steamer *Metlako* was en route from Portland to The Dalles, Oreg., a passenger, Peter Gearin, while under the influence of liquor, accidentally fell overboard and was drowned near the head of Reeds Island, Columbia River. Every effort was made to rescue him without avail.

February 5.—At 10 a. m., about 30 miles below Newport, Pend d'Oreille River, steamer *Red Cloud* ran into ice, which stove a hole in her bow, causing steamer to sink. Estimated damage to steamer, $2,000. No cargo on board.

February 7.—While en route from Portland to The Dalles and abreast of Cape Horn, Columbia River, the steamer *Metlako* broke her crank shaft on starboard side, taking out cylinder head, etc. Estimated damage to steamer, about $700.

February 10.—Case of J. E. McCauley, assistant engineer of the steamship *Columbia*, whose license was revoked October 16, 1902, was retried, as per instructions from the supervising inspector, first district, and his license was revoked February 10, 1903, for a violation of section 4449 of the United States Revised Statutes. Case appealed to supervising inspector, first district, and decision of local inspectors modified February 25, 1903, to suspension of appellant's license for the period of 4½ months from October 16, 1902.

February 10.—Case of M. C. Burpee, assistant engineer of the steamship *Columbia*, whose license was revoked October 16, 1902, was retried, as per instructions from supervising inspector, first district, and his license was revoked February 10, 1903, for a violation of section 4449 of the United States Revised Statutes. Case appealed to the supervising inspector, first district, and decision of local inspectors modified February 25, 1903, to suspension of appellant's license for the period of 4½ months from October 16, 1902.

February 10.—Case of R. Foley, assistant engineer of the steamship *Columbia*, whose license was revoked October 16, 1902, was retried, as per instructions from supervising inspector, first district, and his license was revoked February 10, 1903, for a violation of section 4449 of the United States Revised Statutes. Case appealed to supervising inspector, first district, and decision of local inspec-

tors modified February 25, 1903, to suspension of appellant's license for the period of 4½ months from October 16, 1902.

February 10.—Case of E. B. Huston, assistant engineer of the steamship *Geo. W. Elder*, whose license was revoked October 11, 1902, was retried, as per instructions from supervising inspector, first district, and his license was revoked February 10, 1903, for a violation of section 4449, of the United States Revised Statutes. Case appealed to supervising inspector, first district, and decision of local inspectors modified February 21, 1903, to suspension of appellant's license for the period of 4½ months from October 9, 1902.

March 17.—While en route from Astoria to Portland, and about 1 mile above Cathalamet, Columbia River, Washington, the starboard crank pin on steamer *Undine* carried away, taking out both cylinder heads. Estimated damage, $500.

April 10.—While en route from Portland to The Dalles, crosshead on starboard engine of steamer *Dalles City* gave way, destroying cylinder. Accident was caused by old flaw in crosshead. Estimated damage, $1,000.

May 6.—While en route from Portland to Astoria, Oreg., at 11.30 p. m., about three-quarters of a mile from Rainier, Columbia River, Oregon, steamer *Hassalo* collided with a fishing boat, and its only occupant, Walter M. Girt, was drowned. Investigation held May 19, 1903, and master of steamer *Hassalo* exonerated from all blame.

May 20.—While en route from La Center to Portland, Oreg., William Whistler, deck boy on the steamer *Mascot*, accidentally fell overboard and was drowned near head of Batchelor Slough, Columbia River.

June 24.—While en route from Marshfield to Portland, Oreg., O. Swanson, third mate of steamship *Alliance*, accidentally fell overboard while taking soundings near outer end of North Jetty entrance to Coos Bay, Oregon, and was drowned.

June 28.—While en route from The Dalles to Portland, Oreg., and when just above Binger, Columbia River, Washington, Fred. Foster, deck hand on steamer *Dalles City*, accidentally fell overboard and was drowned.

September 30.—Upon investigation of charges filed against Walter Kaiser, it was found that he was intoxicated and negligent in the performance of his duties as chief engineer of the steamer *Chester* on the 1st and 4th of September, 1903, and his license was revoked.

September 18.—Complaint was filed with the collector of customs, Portland, Oreg., against the steamer *Mascot* for a violation of section 8, Rule IX, rules and regulations, and sections 4463, 4449, and 4500 of the United States Revised Statutes, for not carrying number of engineers required by her certificate of inspection.

October 10.—While en route from Holbrook, Oreg., to Portland, Oreg., the steamer *Nellie*, with a barge in tow, struck a snag near the head of Willamette Slough, and stove a plank in on under side of hull. Steamer was immediately beached in shallow water. No cargo. Estimated damage to steamer, $300.

October 12.—While the steamer *Triumph* was crossing out over Coquille River bar a heavy sea broke over the vessel carrying a passenger, John Jorgenson, overboard. Distress signals were immediately blown, and Mr. Jorgenson was picked up by the life-saving crew, but every effort to resuscitate him proved of no avail.

October 14.—While crossing Columbia River bar steamer *Sue H. Elmore* struck heavily several times on the bar, starting some seams around stern bearing, causing same to make water. Steamer will be hauled out at Astoria, Oreg., and seams recalked. Damage to cargo, $50; to vessel, $250.

October 20.—While en route from The Dalles to Portland, Oreg., and during a heavy fog, the steamer *Regulator* collided with a ship lying at Oceanic dock, Portland, Willamette River, Oregon. Estimated damage to steamer, $275. No damage to ship.

October 27.—Steamer *Mayflower* was reported to United States district attorney for Oregon for being navigated on Lower Klamath Lake and river without being inspected.

November 9.—While steamer *Imnaha* was en route from Lewiston, Idaho, to Imnaha mines, and just above Mountain Sheep Rapids, Snake River, a mooring buoy cable (used for lining steamer over rapids) caught in the eccentric rod of the steamer and rendered it useless; steamer drifted back into Mountain Sheep Rapids and is a total wreck. Estimated loss, $18,000. No loss of life. Estimated loss of cargo, $1,000.

November 10.—Steamer *Water Witch* was reported to the United States district attorney for Oregon for being navigated without licensed officer on board.

November 18.—At 1 a. m., while tied to her dock at Grants Ferry, Columbia River, Washington, the steamer *Nellie* was completely destroyed by fire. Origin of fire unknown. No loss of life. No cargo on board. Estimated loss, $500.

November 23.—At 10.25 a. m., while opposite Stella, Columbia River, Washington, W. J. Beadiford, seaman on the steamer *Columbia*, accidentally fell overboard and was drowned. Every effort was made to rescue him, but without avail. Body not recovered.

December 23.—At 7.30 a. m., about 2 miles south of Portland, Willamette River, Oregon, during a heavy fog, the steamers *Modoc* and *Altona* collided, breaking both cylinder timbers on the port side, also fantail, wheelhouse, and wheel of the steamer *Altona*. No damage to steamer *Modoc*. No loss of life or damage to cargo. Estimated damage to steamer *Altona*, $500.

December 28.—While en route from Corvallis to Portland, Oreg., steamer *Pomona* struck a submerged snag near Careys Bend, Willamette River, and sunk. No loss of life. Estimated damage to steamer, $2,500. Damage to cargo, $100.

LOCAL DISTRICT OF SEATTLE, WASH.

1902.

December 5.—The steamer *Fairhaven* collided with the snag boat *Skagit*, lying at the wharf at La Conner, Wash. Damage, $300.

December 23.—While on voyage from Seattle to Kadiak, Alaska, the steamer *Bertha* touched bottom while leaving Kayak Harbor, doing some damage to her keel and starting a slight leak. She has been docked and repaired. Damage, about $1,000.

1903.

February 11.—While proceeding from Seattle to Ballard, the steamer *Bay City* caught fire from her smokestack and was burned. Loss, $16,000. No loss of life.

May 3.—The steamship *Queen* collided with the British steamer *Robert Adamson*, off West Point, Puget Sound, during a dense fog; the *Robert Adamson* receiving considerable damage. The *Queen* was not seriously injured. No loss of life. Investigation May 11 and 14. Decision, May 18, exonerating the master and the pilot of the *Queen* from any blame.

May 5.—The steamship *Leelanaw* struck the outlying rocks at Tatoosh during a dense fog. She was backed off and proceeded to dry dock at Quartermaster, Wash., for examination and repairs. Damage, about $3,000.

May 12.—The steamer *Eagle* was partially burned at the wharf at Eagle Harbor, Washington. Origin of fire unknown. Damage, about $300.

June 18.—Steamer *Lady of the Lake* caught fire while on the marine ways at West Seattle, and was partially burned. Origin of fire not ascertained. Estimated loss, $3,000.

July 9.—The steamer *La Conner* was partially burned July 9, 1903, at Orcas Island. Cause of fire, the combustion of lime in her cargo. Estimated damage, $3,500.

July 19.—At 1.03 a. m., while in the vicinity of Marrowstone Point, in a dense fog, the steamer *North Pacific* collided with some obstruction, causing her to fill rapidly. Passengers and crew all saved by means of the ship's boats. The vessel sunk in deep water, and is a total loss. Estimated loss, $15,000. Investigation August 6, 1903. Decision, August 8, 1903, suspending the license of Gus Soferman, master and pilot of steamer *North Pacific*, nine months for unskillfulness, and for violations of the fourth paragraph of Rule IV of pilot rules.

July 23.—The steamer *Walsh* was burned while lying at the wharf at Port Orchard, Wash. Origin of fire unknown. No loss of life. Estimated loss, $20,000.

August 11.—While passing through the Eleventh street bridge at Tacoma, Wash., at 8.45 p. m., the tug *Falcon* collided with a rowboat containing a man and a woman. A boat was launched and the man rescued, but the woman was not found. When landed the man disappeared without giving his own name or that of the woman, and their names have not been ascertained.

August 28.—The steamer *Gazelle* was partially burned while lying at the wharf at Kirkland, Wash. Origin of fire unknown. Damage, $4,100.

September 4.—While crossing Grays Harbor bar, the steamer *Grace Dollar* struck bottom, breaking the rudder. A jury rudder was rigged and the vessel proceeded on her voyage.

September 6.—While passing through Wrangell Narrows, Alaska, fire was dis-

covered in the forward bunker of the steamer *Excelsior*. The fire getting beyond control, the ship was grounded and flooded, and the fire extinguished. She was then pumped out and brought to Seattle, Wash., for repairs. Damage, $10,000.

October 5.—During a heavy gale at Whatcom, Wash., the schooner *Resolute* parted her stern lines, and swung down against the schooner *Fearless*. Damage to *Fearless*, $500; *Resolute* not injured.

October 8.—While the *Cottage City* was crossing Frederick Sound, the low-pressure piston-rod broke, breaking cylinder head and cracking cylinder. The wreckage was cleared away and the ship proceeded to Seattle, Wash., for repairs. Damage, $5,000.

October 14.—The steamer *Success* caught fire while lying at the wharf at Georgetown, Wash. Origin of fire unknown. Damage, about $800.

November 3.—The steamer *Excelsior* struck bottom while entering Kayak Harbor, Alaska, damaging her keel. She has been docked and repaired at Seattle, Wash. Damage, $1,500.

November 13.—While off Three Tree Point, Puget Sound, the steamer *Capital City* broke her shaft. Damage, $700.

November 23.—The steamer *Al-ki* struck Hien Bank, Straits of Juan de Fuca, damaging her keel. She has been docked and repaired. Damage, $1,800.

November 24.—The donkey boiler on schooner *Lyman D. Foster* exploded November 24, 1903. Damage, $3,800. No loss of life.

December 6.—The steamer *Bellingham*, with the steamer *Dode* in tow alongside, collided with the steamer *Flyer* in Seattle Harbor, the weather being very foggy. Damage to *Flyer*, $3,500. Estimated damage to *Bellingham* and *Dode*, $2,000. Investigated December 14 and 15. Decision, December 26, exonerating the officers from blame.

December 18.—Tug *Sea Lion* grounded near Point No Point, Puget Sound. Damage, $1,000.

December 21.—Tug *Sophia* burned at Eagle Harbor, Washington. Origin of fire unknown. Loss, $1,500.

LOCAL DISTRICT OF JUNEAU, ALASKA.

1902.

August 27.—The case of George P. Townsend, master of gasoline vessel *Eclipse*, of Honolulu, charged, first, with carrying passengers on a freight vessel; and, second, with leaving unlicensed men in charge of vessel, was investigated February 16, 1903. The first charge was referred to the collector of customs at Honolulu for action, and on the second charge Captain Townsend was exonerated.

November 19.—John Macas, seaman on sail vessel *Carrier Dove*, jumped overboard at sea. A boat was launched and man picked up, but died soon afterwards.

December 17.—As sail vessel *Aurora*, 1,070 tons, was leaving the dock at Newcastle, New South Wales, assisted by two tugs, vessel grounded. Floated off in 10 hours' time. Vessels bottom was examined by divers, who reported no damage except slightly bruising her shoe.

1903.

January 11.—The sail vessel *Paramita*, 1,444 tons, was caught in a hurricane at sea, heavy seas boarding the vessel. Her jibboom, foretop, fore and top gallant, main and mizzen, all sails, gear, and lifeboats, were carried away. Estimated damage to vessel, $16,000. No loss of life.

January 16.—L. Anderson, seaman on sail vessel *Carrier Dove*, fell overboard from spanker crosstree and was drowned. The man sunk before assistance could be rendered.

January 31.—Fire was discovered in the forehold of steamer *Mikahala*, presumably caused by spontaneous combustion. Fire was easily extinguished. Damage to cargo, about $20.

March 16.—At 11.20 p. m. fire broke out in the cabin of schooner *Mahukona*, lying at Honolulu, believed to have been caused by the explosion of a lamp. Fire soon extinguished, with but slight damage to cabin and furnishings.

April 8.—The tug *Rover*, with U. S. Navy scow *No. 15* in tow, in passing the barkentine *Archer*, outward bound from Honolulu, collided, damaging the scow to the extent of $150. No damage to steamer or barkentine.

April 30.—While engaged in lowering freight into a surfboat Nishamura, a Japanese seaman on steamer *Noeau*, fractured his skull between her gunwale and ship's side, from which injury he died on the following day.

May 23.—Steamer *Chilkat*, 172 tons, struck an unchartered rock in Chilkat Inlet. Vessel came off without assistance. Damage estimated at $50.

May 31.—While lying alongside of ship *America*, at Nushagat, Alaska, one of the main topsail braces caught on main truck of steamer *Mary D. Hume*, pulling same off, and falling, struck a Chinaman sitting aft, fracturing his skull and killing him instantly.

July 14.—While the steamer *Leader* was lying alongside of bark *B. P. Cheney*, at anchor off Nak Nek, Bristol Bay, Alaska, rough sea and steamer rolling heavily, Peter Nelson, deck hand, fell overboard and was drowned. Body not recovered.

August 10.—According to the sworn statement of the chief engineer of steamer *Independent* the crown sheet of boiler bulged without any apparent cause. Temporary repairs were made by heating and driving the plate back, and permit granted steamer to proceed to Seattle, Wash., under reduced pressure of steam, for permanent repairs. Estimated damage to steamer, $250.

August 15.—On arrival at Dawson, Alaska, August 16, 1903, it was discovered that the three boilers of steamer *John Cudahy*, 819 gross tons, were badly bulged, owing to an accumulation of mud and scale on the bottom of same. It was necessary to cut a portion from the shell of each boiler and put in an inside patch. Damage to boilers, $1,074. The case was investigated at St. Michael, Alaska, September 2, and license of R. S. Nash, chief engineer, was suspended for a period of 2 months for negligence, and license of P. E. Peterson, assistant engineer, was suspended for a period of 1 month for like cause.

August 29.—Steamer *Vigilant*, 50 gross tons, struck a rock near Pup Island, Cholmondelay Sound, causing her boiler to shift. Feed and blow pipes let go and J. A. Joseph, cook, and George Edson, fireman, were badly scalded, the former dying from the effects thereof. Case was investigated at Ketchikan, October 30, and the license of E. A. Hasslocher, master, was suspended for a period of 6 months for negligence. Damage to steamer, $60.

September 28.—Samaka, a Japanese seaman, accidentally fell from aloft of steamer *Ke Au Hou* and was instantly killed.

September 30.—At 7 p. m., at a place known as the "Chain of Rocks," on the Yukon River, steamer *Sarah*, 1,211 gross tons, struck, breaking three holes in her bottom on the starboard side and sinking in 5½ feet of water. No loss of life. Damage to steamer, $2,000. Damage to cargo, $5,000.

October 1.—In a severe gale of wind in the Arctic Ocean a heavy sea swept the steamer *Corwin*, 307 gross tons, carrying away her lifeboats and one life raft, with equipment. Loss to steamer, $1,000.

October 25.—Steamer *Ranier* struck an uncharted rock in Icy Straits, Alaska. A southeast gale coming on before assistance could be rendered, the steamer became a total loss. Case investigated November 5, 6, and 9, and Herbert Churchill, master, was exonerated from blame. No loss of life. Estimated loss of steamer, $6,000.

December 19.—A seaman named Kia came on board steamer *Helene* at Honolulu intoxicated and was missed when the steamer was returning from Molokai, December 20, for Honolulu.

JOHN BERMINGHAM,
Supervising Inspector, First District.

The SUPERVISING INSPECTOR-GENERAL,
Washington, D. C.

SECOND DISTRICT.

STEAMBOAT-INSPECTION SERVICE,
OFFICE OF U. S. SUPERVISING INSPECTOR,
New York, N. Y., January 19, 1904.

SIR: In compliance with the provisions of section 4410, Revised Statutes, I submit the following report of the general business transacted in the second supervising district during the year ended December 31, 1903:

Vessels inspected, added to service, etc.

Local district.	Inspected.		New vessels added to service.		Gone out of service.		Gone into other districts.	
	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.
New York, N. Y	1,511	1,707,286	40	151,513	4	1,791	56	50,876
Boston, Mass	372	208,324	11	16,892	2	33		
Philadelphia, Pa	336	290,391	46	71,952	6	2,988	67	104,082
New London, Conn	140	43,110	7	1,436	2	105	35	11,375
Albany, N. Y	202	87,739	13	1,091	4	985	21	1,296
Portland, Me	199	84,610	22	21,051	3	3,359	40	38,794
Providence, R. I	207	83,023	9	284	6	2,811	29	7,689
Bangor, Me	106	21,769	6	3,247	1	12	13	13,544
New Haven, Conn	182	19,064	4	218	5	263	23	7,709
Total	3,255	2,565,396	158	267,684	33	12,297	284	235,365
Total previous year	3,229	2,443,364	180	232,577	51	7,170	289	232,601
Decrease			22		18		5	
Increase	26	141,972		35,107		5,127		2,764

Boilers inspected.

Local district.	Number inspected.	Number defective.	Number condemned.	Defects in boilers and attachments.				
				Sheets.	Steam and mud drums.	Steam pipes.	Flues and tubes.	Boiler heads.
New York, N. Y	2,768	28		9	2	13	96	
Boston, Mass	490	52	11	18			32	2
Philadelphia, Pa	613	4					7	
New London, Conn	206	1	1	1		2	2	
Albany, N. Y	235	31	2	57	2	1	252	
Portland, Me	190	13		8			25	
Providence, R. I	248	7		4			311	
Bangor, Me	101	4		2			2	
New Haven, Conn	143	6	1	6				
Total	4,994	141	15	105	4	16	727	2
Total previous year	4,866	124	18	83	3	11	340	
Decrease			3					
Increase	128	17		22	1	5	387	2

Officers licensed.

Local district.	Steam and other motor vessels.							Sail vessels and barges.		Total.
	Masters.	Masters and pilots.	Mates.	Mates and pilots.	Pilots.	Joint pilots and engineers.	Engineers.	Masters.	Chief mates.	
New York, N. Y	62	238	88	8	240	5	618	13	8	1,270
Boston, Mass	37	66	39	5	95	7	205	13	15	484
Philadelphia, Pa	9	45	13	3	48	3	135	6	2	264
New London, Conn	1	21	3		48	6	62			141
Albany, N. Y		9			30	9	73	1		122
Portland, Me	3	12	3	2	33	7	58	7	4	129
Providence, R. I		12	1	2	54	6	91	1	5	172
Bangor, Me	1	9			28		20		1	59
New Haven, Conn		5			29		50	1		85
Total	113	419	142	20	605	43	1,307	42	35	2,726
Total previous year	227	2,697	179	72	2,074	96	5,540	61	27	10,973
Decrease	114	2,278	37	52	1,469	53	4,233	19		8,247
Increase									8	

Violations of the steamboat laws.

Local district.	Investigations.					Appeals.			
	Cases investigated.	Dismissed.	Licenses suspended.	Licenses revoked.	Cases reported to district attorney, and to chief officers of customs.	Number of appeals.	Decisions revoked.	Decisions modified.	Decisions sustained.
New York, N. Y.	31	10	14	8	11	10	4		6
Boston, Mass.	5	1	1	2	1				
Philadelphia, Pa.	9	5	2	2	8	1	1		
New London, Conn.	1	1			1				
Albany, N. Y.	1	1			1				
Portland, Me.									
Providence, R. I.	1	1							
Bangor, Me.					1				
New Haven, Conn.	3	2			1				
Total	51	21	17	12	24	11	5		6
Total previous year.	37	10	24	2	17	3	1	1	1
Decrease			7					1	
Increase	14	11		10	7	8	4		5

Expenditures during the year ended December 31, 1903.

District.	Salaries.	Traveling expenses.	Incidentals.	Total.
Supervising inspector, second district	$4,133.80	$641.37	$8,196.80	$7,970.97
New York, N. Y.	44,982.37	2,054.80	8,962.64	55,999.81
Boston, Mass.	10,500.00	634.05	208.73	11,432.78
Philadelphia, Pa.	14,227.16	1,667.60	129.83	16,024.59
New London, Conn.	4,800.00	411.80	85.88	5,297.68
Albany, N. Y.	5,200.00	436.00	74.97	5,710.97
Portland, Me.	4,795.05	1,801.20	47.16	6,143.41
Providence, R. I.	5,000.00	512.00	642.40	6,154.40
Bangor, Me.	2,400.00	809.18	23.40	3,232.58
New Haven, Conn.	3,794.44	251.60	913.36	4,959.40
Aggregate	99,831.82	8,809.60	14,375.17	123,016.59

Samples of steel and iron tested, of material to be used in marine boilers, in second district, for the year ended December 31, 1903.

Local district.	Whole number tested.	Samples of steel.	Samples of iron.	Steel failed in tensile strength.	Iron failed in tensile strength.	Steel failed in reduction of area.	Iron failed in reduction of area.	Failed in elongation.
New York, N. Y.	121	113	8	10	1	4		
Boston, Mass.	10	10						
Philadelphia, Pa.	23	2	21				2	
Total	154	130	24	10	1	4	2	

Samples of brass made of an alloy equal to 92 per cent of copper and 8 per cent of Banca tin, to be used in manufacturing the Lyle type of gun, to be used in propelling line-carrying projectiles, tested during the year ended December 31, 1903.

Local district.	Number tested.	Failed in tensile strength.	Failed in reduction of area.
New York, N. Y.	58	2	4

In addition to the regular annual inspections, the following boilers were inspected in United States Government buildings and on United States Government steamers during the year ended December 31, 1903:

Local inspection district of New York, N. Y.

UNITED STATES BUILDINGS.

United States Government buildings.	Location.	Date of inspection.	Number of boilers inspected.
Appraisers' warehouse	New York, N. Y.	May 2	
Do	do	May 6	4
Do	do	May 11	
Do	do	May 14	
Barge office	do	Mar. 31	1
Do	do	Apr. 9	1
Court-house and post-office	do	Apr. 3	
Do	do	Apr. 4	
Do	do	Apr. 9	
Do	do	Apr. 10	8
Do	do	May 1	
Do	do	May 7	
Custom-house	do	Apr. 2	
Do	do	Apr. 9	
Do	do	Apr. 22	4
Do	do	Apr. 30	
Immigrant station	Ellis Island, N. Y.	Mar. 31	8
Do	do	June 9	
Military Academy	West Point, N. Y.	July 7	
Do	do	July 13	19
Do	do	Aug. 3	
Post-office	Brooklyn, N. Y.	Apr. 20	6
Do	do	Apr. 29	
Subtreasury	New York, N. Y.	May 18	1
Public Health and Marine-Hospital Service station.	Stapleton, N. Y.	Jan. 6	1
Do	do	Jan. 8	1
Total			54

UNITED STATES STEAMERS.

United States Government steamers.	Where inspected.	Date of inspection.	Class.	Service.	Number of boilers inspected.
Colonel Wikoff	Governors Island, N. Y.	Dec. 8	Tender	Quartermaster's Department.	1
Iris	Tompkinsville, N. Y.	Sept. 12	do	Third light-house district.	2
Kilpatrick	New York, N. Y.	Dec. 11	Transport	Quartermaster's Department.	3
Manisees	Mariners Harbor, N. Y.	Nov. 24	Surveying	Engineers' Department.	2
Mistletoe	Tompkinsville, N. Y.	Sept. 9	Tender	Third light-house district	1
Nettle	do	Sept. 23	do	do	1
Ordnance	New York, N. Y.	Mar. 6	Towing	Ordnance Department.	1
Seneca	Morris Heights, N. Y.	Aug. 1	Launch	Navy Department	1
Total					12

LOCAL INSPECTION DISTRICT OF BOSTON, MASS.

United States Government buildings and steamers.	Location.	Date.	Number of boilers inspected.
BUILDINGS.			
Post-office and subtreasury building	Boston, Mass	Aug. 26	4
Do	do	Oct. 15	3
STEAMERS.			
Mayflower (light-house tender)	Boston, Mass	Mar. 31	2
Petrel (Marine-Hospital Service)	Neponset, Mass	Nov. 9, 11	1

Local inspection district of New York, N. Y.—Continued.

LOCAL INSPECTION DISTRICT OF PHILADELPHIA, PA.

United States Government buildings and steamers.	Location.	Date.	Number of boilers inspected.
BUILDING.			
Appraisers' stores	Philadelphia, Pa	Sept. 2	2
STEAMERS.			
Sprigg Carroll (Quartermaster's Department)	Wilmington, Del	Jan. 12	1
Zizania (light-house tender)	Philadelphia, Pa	Oct. 2	2

LOCAL INSPECTION DISTRICT OF ALBANY, N. Y.

Watervliet Arsenal	Watervliet, N. Y.	May 22	6
Post-office	Albany, N. Y.	July 11	2

LOCAL INSPECTION DISTRICT OF NEW HAVEN, CONN.

Custom-house and post-office	New Haven, Conn.	June 29	2
Do	Hartford, Conn.	Aug. 6	2

CASUALTIES, VIOLATIONS OF LAW, AND INVESTIGATIONS.

LOCAL DISTRICT OF NEW YORK, N. Y.

1903.

January 3.—About 7.20 p. m., steam canal boat *Silex* collided off the Battery, New York, with float in tow of tug *New York Central No. 2*, causing a great deal of damage to the *Silex*. No one hurt. Investigated February 28. Decision March 13, suspending license of George Smith, master of *New York Central No. 2*, for 10 days.

January 6.—Steamship *Horatio Hall* collided in the East River with float in tow of tug *Rochester*, causing damage to the float of about $200. The tug *Slatington* immediately afterwards also collided with the same float. No one hurt.

January 8.—About 6.45 a. m. ferry steamer *Pittsburgh* collided in the North River with towing steamer *Nannie Lamberton*, causing slight damage. No one hurt. Investigated February 11. Decision February 21, suspending license of Carl E. Flensburg, master of tug *Nannie Lamberton*, for 25 days.

January 10.—About 2 a. m., while towing steamer *John D. Dailey* was towing an empty scow to New York, and while in the lower bay, the captain of the scow fell overboard and was drowned.

January 12.—About 6 a. m., while steamship *St. Louis* was at sea on her trip from Southampton to New York, one tube burst in the forward port boiler and fires had to be drawn. On the second day out from Southampton tubes were found to be getting silted up very fast. Fires were drawn and boilers allowed to cool down so that tubes could be cleaned. Steam pressure was reduced, so steamer was late in arriving at her New York port. Steamer was examined on arrival at New York by local and assistant inspectors, and repairs on boilers ordered, and vessel proceeded to Philadelphia to have repairs made. No one hurt.

January 13.—About 2 a. m. towing steamers *New York Central No. 8* and *John E. Berwind* collided off the Battery, New York, causing slight damage. No one hurt.

January 16.—While towing steamer *Grit* was tied up for the night at dock at Tottenville, N. Y., she filled with water and sunk. No licensed officer on board. Steamer was raised, and it was found that a plank had started, which caused her to leak. Damage slight. No one hurt.

January 21.—About 8.22 a. m. freight steamer *Nanticoke*, while in Newark Bay, sprang a leak and filled with water and sunk before steamer could be beached. Steamer was raised and put on dry dock and examined, and it was found that she had been cut through by the ice. No one hurt.

January 22.—About 2 p. m. towing steamers *Pierre C. Van Wyck* and *Long Island* collided in the North River, causing damage of about $100. No one hurt.

January 22.—About 6.15 p. m. towing steamer *Pioneer* collided off pier 6, North River, with passenger steamer *New Hampshire*, causing slight damage. No one hurt.

January 23.—Towing steamer *John T. Pratt* was tied up at dock, foot of Van Brunt street, Brooklyn, when she filled with water and sunk. Steamer had been working in the ice for some days previous and it was believed that oakum had worked out of her seams, causing her to leak and sink. Steamer was raised and put on dry dock for repairs. Damage, about $800. Steamer examined on dry dock February 3, and found that oakum had washed out of her seams.

January 29.—About 9.15 a. m. towing steamer *New York Central No. 6* collided at Battery, New York, with passenger steamer *Bay Ridge*, causing the latter to fill with water and sink. There was a thick fog at the time, and the *Bay Ridge* was lying at dock. No one hurt. Investigated February 14. Decision February 25. Case dismissed.

January 31.—Towing steamer *A. C. Rose* collided at Atlantic dock, Brooklyn, with float in tow of tug *John L. Brainard*, causing damage about $250. No one hurt.

February 4.—About 3.15 p. m., during a thick fog, the towboat *New York Central No. 22*, with barge in tow, went ashore on Sunken Meadows, East River. She was gotten off on February 7. No one hurt.

February 6.—About 3 a. m. float in tow of tug *Robert Palmer* collided off pier 7, East River, with empty coal boats in tow of tug *Slatington*, causing slight damage. No one hurt.

February 7.—About 5.45 a. m. barge in tow of *New York Central No. 21* collided in New York Bay, off Governors Island, with barge in tow of tug *Nannie Lamberton*, causing slight damage. No one hurt.

February 10.—About 6.20 a. m. towing steamer *Wm. E. Ferguson* collided off Erie Basin, Brooklyn, with tug *Defiance*, causing very slight damage. No one hurt.

February 10.—About 8 a. m. barge in tow of tug *David B. Dearborn* collided in the North River with barge in tow of tug *New York Central No. 18*, causing slight damage. No one hurt.

February 18.—About 11.25 a. m. passenger steamer *Minnahannock*, while lying at Blackwells Island, East River, was struck by the tug *Richmond*, causing slight damage. No one hurt.

February 18.—About 12.30 a. m., while steamship *Rio Grande* was lying at her New York pier, fire broke out in the saloon. The crew made every effort to subdue it. City fire department arrived and put it out. A good deal of damage was done to cargo from water. Cause of fire unknown. No one hurt.

February 21.—About 4.20 a. m., while towboat *William Schaubel, sr.*, was tied up at dock at Erie Basin, Brooklyn, she filled with water and sank. No one hurt. Steamer was raised, and it was found that the cause was the shearing of a rivet by a broken guard iron. Damage, about $300.

February 26.—Sailing ship *Republic* was reported to the collector of customs at New York as having been navigated after the expiration of her certificate of inspection, certificate having expired on January 9, 1903.

February 28.—About 6 a. m. ferry steamer *New Jersey* collided in the North River with ferry steamer *Ridgewood*, causing damage to the *Ridgewood* estimated at $500. Damage to *New Jersey* slight. Accident due to thick fog at the time. Two passengers on the *Ridgewood* were slightly injured.

February 28.—About 6.10 a. m. ferry steamers *Paterson* and *Lackawanna* collided in the North River during a dense fog, causing damage to the *Paterson* estimated at $100. No one hurt.

February 28.—Ferry steamer *New Jersey*, on her 7.45 a. m. trip from Jersey City, collided in the North River with ferryboat *St. Louis*, causing slight damage. The *New Jersey*, after clearing from the *St. Louis*, and running under slow speed and sounding fog signal, collided with the ferryboat *Passaic*, causing very slight damage. There was a dense fog at the time, which was the cause of the accident. No one hurt.

March 2.—Towing steamer *Aschenbroedel* was reported to the collector of customs at New York as having been navigated after expiration of her certificate of inspection, certificate having expired on February 19, 1903.

March 4.—Towing steamer *Eli B. Conine* was reported to the collector of customs at New York as having been navigated after expiration of her certificate of inspection, certificate having expired on March 1, 1903.

March 4.—About 7.25 a. m. ferryboat *Easton* collided with towboat *Leader* at pier 9, East River, causing slight damage. The accident was due to a thick fog. No one hurt.

March 4.—About 8.50 a. m., when ferryboat *Rutherford* was entering slip at Chambers street, North River, she collided with ferryboat *John G. McCullough*, causing slight damage. No one hurt.

March 5.—About 11.30 a. m. steam lighters *National* and *Apache* collided in the East River, causing very slight damage. No one hurt.

March 5.—About 12.45 a. m., while tugboat *Leonard Richards* was pulling a dirt scow out of the slip at Thirtieth street, East River, Fred Barr, engineer of tugboat, accidentally fell overboard and was drowned.

March 6.—Towing steamer *Cenerentola* was reported to the collector of customs at New York as having been navigated after the expiration of her certificate of inspection, certificate having expired on 20th of January, 1903.

March 8.—About 5.50 a. m. towing steamers *Transit* and *Brinton* collided in the North River, causing slight damage. No one hurt.

March 8.—About 5 p. m. ferry steamer *Edgewater* collided with canal boat *Theresa McLain* at Edgewater, N. J., causing damage of about $100. The canal boat was lying at end of ferry rack discharging coal. There was a thick fog at the time of the accident. No one hurt.

March 8.—About 1 p. m. towing steamer *S. O. Co. No. 2* ran into float in tow of tug *Henry U. Palmer* while the latter was lying at dock at Jersey City. Damage done was slight. The accident was due to a thick fog. No one hurt.

March 8.—About 9.13 a. m. freight steamer *Express* collided off Fiftieth street, East River, with passenger steamer *Rhode Island*, causing slight damage. After the collision with the *Rhode Island* the *Express* struck the canal boat *Lyman & Willie*. Damage to the *Rhode Island* about $700. No one hurt. Accident due to dense fog which existed.

March 10.—About 6.25 a. m. towing steamer *William E. Chapman* collided with towing steamer *Harry G. Runkle* off the Battery, New York, causing very slight damage. No one hurt.

March 13.—About 6.35 a. m. car float in tow of tug *Lowell M. Palmer* collided off Tenth street, East River, with pasenger steamer *New Hampshire*, causing car float to fill and sink. There were 14 railroad cars on the float, and they rolled off the float into the river. There was a fog at the time of the accident. Damage to *New Hampshire* slight.

March 17.—About 10.20 p. m. float in tow of tug *Transfer No. 6* collided in the East River with ferryboat *Maine*, causing slight damage. No one hurt. Investigated March 27 and April 14. Decision April 22, suspending license of George Morgan, pilot of the steamer *Maine*, for 60 days.

March 19.—About 9.50 p. m. steamer *Norman* collided with sail vessel *John B.* Manning, about 20 miles southeast from Fire Island light-ship, causing a good deal of damage to the *Norman*. No one hurt. The cause of the collision was a thick fog.

March 24.—About 6 a. m. float in tow of tug *Transfer No. 10* collided in the North River with float in tow of tug *John L. Brainard*, causing considerable damage to the floats and killing floatman in charge of float in tow of tug *John L. Brainard*. There was a thick fog at the time. Investigated April 9. Decision April 16. Case dismissed.

March 24.—About 6.25 a. m. ferry steamer *St. Louis* collided in the North River with scow in tow of tug *Samuel E. Bouker*, causing slight damage. No one hurt.

March 24.—About 7.40 a. m. ferry steamer Kingston collided in the North River with towboat *Franklin N. Brown*, causing a slight damage. Accident caused by thick fog. No one hurt.

March 27.—While towing steamer *William A. Kane* was backing from dock at Rivington street, New York, she caught on a spile and was capsized. The captain, James Murphy, was drowned. The steamer was raised. Damage, about $1,500.

March 29.—About 3.15 p. m., while ferry steamer *Bound Brook* was tied up at Jersey City, N. J., having boilers washed, fire broke out in the ladies' cabin, doing a great deal of damage before being extinguished. Cause of fire unknown. No one hurt.

April 1.—About 1.15 p. m. towing steamer *Windber* collided in the East River with float in tow of tug *Gladiator*, causing slight damage. No one hurt.

April 1.—About 10.40 p. m. float in tow of tug *Lowell M. Palmer* collided in the East River with float in tow of tug *Wrestler*, causing slight damage. No one hurt.

April 2.—About 3.20 p. m., while steamship *Jefferson* was in New York Harbor, bound out to sea, she collided with steamship *Sicilian Prince*, causing very slight damage. No one hurt. Both steamers proceeded on their way.

April 3.—About 5.45 p. m. dumper in tow of tug *Franklin N. Brown*, while being towed out to sea, sunk when off whistling buoy, and the man who was on board was drowned. There was a very heavy sea at the time.

April 8.—About 4.35 p. m. a tow of tug *Brinton* collided in the East River with tow of tug *Eastchester*, causing very slight damage. No one hurt.

April 10.—In the morning, while steam lighter *Ox* was lying in the Erie Basin, Brooklyn, fire broke out, doing considerable damage to pilot house before extinguished. Cause unknown. No one hurt.

April 18.—About 7.45 a. m. towing steamers *Thomas Flannery* and *Thomas Tracy* collided in New York Bay, causing slight damage. No one hurt.

April 21.—About 8.45 p. m. scow in tow of tug *E. A. Packer* collided off Halletts Point, East River, with float in tow of tug *Transfer No. 12*, causing slight damage. No one hurt.

April 21.—About 5.17 p. m. steamer *North Star* collided in East River with car float in tow of tug *Lancaster*, causing slight damage. No one hurt.

April 29.—About 7.20 p. m. floats in tow of tug *C. M. Depew* collided in the North River with scows in tow of tug *Charles R. Stone*, causing slight damage. No one hurt.

April 30.—About 4.20 p. m. ferry steamer *Winona* collided off pier 3, East River, with U. S. S. *Manisees*, causing slight damage. No one hurt. The *Winona* was entering her slip, and the tide swung the other boat against her.

April 30.—About 4.45 a. m., while freight steamer *Bridgeport* was on her way from Brooklyn to Perth Amboy, N. J., fire broke out in the boiler room. Every effort was made to put it out, but it got beyond control and steamer was beached at Carteret, N. J. Towboat *McKeever Bros.* went alongside and put fire out, and then towed the steamer to Twenty-sixth street, Brooklyn. Cause of fire unknown. No one hurt. Steamer repaired.

May 1.—About 9.40 a. m. canal boat in tow of tug *Edward Annan* collided off Sixth street, Jersey City, N. J., with canal boat in tow of tug *Admiral Dewey*, causing the canal boat to sink. No one hurt.

May 12.—About 3.15 p. m. ferryboat *Lakewood* and steam lighter *Ella* collided in the North River, causing slight damage. No one hurt. Investigated June 24. Decision June 27, suspending the license of Morris N. Bunt, pilot of ferryboat *Lakewood*, for 30 days. Appealed to supervising inspector, second district, who rendered decision July 14 sustaining the decision of the local inspectors.

May 12.—Investigation was held in the matter of complaint made by Luther B. Dow, that Charles Stewart, engineer of the steamer *Wanderer*, left his steamer in charge of a fireman on or about February 26, 1903. Decision May 19 suspending the license of Charles Stewart for 10 days.

May 18.—About 8.30 a. m. fire broke out in the forecastle of steamer *Saugerties* while lying at dock at foot of Barrow street, New York. Fire department put fire out. Cause of fire unknown. Damage was principally to cargo by water.

May 20.—On the 4.30 p. m. trip of the ferry steamer *Cincinnati* from Jersey City a man, who was a passenger on the steamer, jumped overboard and was drowned. His name not known.

May 21.—About 7.10 a. m. ferry steamer *Newark* collided in the North River with steam yacht *Fauvette*, causing a good deal of damage to the yacht, but slight damage to the ferryboat. No one hurt.

May 21.—About 6.15 a. m. towing steamers *Boy* and *Transport* collided off the battery, New York, rolling the *Boy* over so that the water got into the engine room. The crew of the *Boy* got on the *Transport* and the latter followed the *Boy* with the object of overtaking her. The *Boy* meantime collided with *Transfer No. 11*, causing considerable damage to the *Boy*. No one hurt. The *Boy* was towed to Brooklyn for repairs.

May 27.—Steamship *Evelyn* left her pier in Brooklyn, bound out, and just after tugboat which was escorting her had left, the steering gear of the *Evelyn* got out of order. Immediately they shifted to hand gear, but the vessel had

headway on and with strong ebb tide she struck the pier, causing damage estimated at $2,000. No one hurt. Vessel was towed back to her berth.

May 27.—Towing steamers *Defiance* and *Laurida* collided at Atlantic dock, Brooklyn, causing slight damage. No one hurt.

June 1.—An investigation was held into the matter of charges made by the Newtown Creek Towing Company against Joseph W. Cornell, engineer, for violating the provisions of section 4449, Revised Statutes, in refusing to serve on the tug *Vigilant*. Decision, June 8, 1903, revoking the license of Mr. Cornell. Case was appealed to supervising inspector, second district, who rendered decision, July 25, 1903, sustaining the decision of the local inspectors.

June 3.—An investigation was held in the matter of complaint made by Joseph H. Wood, secretary and treasurer of Merchants' Express Company, against Joseph M. Dey, chief engineer of steam lighter *Express* for violating section 4449, Revised Statutes, in refusing to perform his duties as engineer on said steamer. Decision, June 16, revoking the license of Mr. Dey. Case appealed to supervising inspector, second district, who rendered decision July 25, sustaining the revocation of license.

June 13.—An investigation was held into the matter of complaint made by Samuel L'Hommedieu against Joseph Rutledge, engineer of tug *Charles Runyon*, that Mr. Rutledge refused to serve in his official capacity as engineer on said tug on May 22, 1903, and that he refused to assign good and sufficient reasons for refusing to serve, as provided for by section 4449 of the Revised Statutes. Decision, June 18, exonerating Mr. Rutledge on the ground that his refusal was due to his fear of personal violence.

June 15.—An investigation was held into the matter of complaint made by the Newtown Creek Towing Company against Frank D. Jones, engineer of tug *Dart*, that the said Frank D. Jones did, on and after April 30, 1903, wrongfully and unreasonably refuse to serve in his official capacity on said steamer, and refused to give a decision in writing, and violating section 4449 of the Revised Statutes. Decision, June 25, revoking the license of Mr. Jones. Case appealed to supervising inspector, second district, who rendered decision, July 25, sustaining the revocation of license.

June 22.—An investigation was held into the matter of complaint made by the Easton and Amboy Railroad Company, that Frank Britt, engineer of towing steamer *Mahanoy*, did, on the 1st day of May, 1903, wrongfully and unreasonably refuse to serve in his official capacity, and violating the provisions of section 4449, Revised Statutes. Decision, June 29, revoking the license of Mr. Britt. Case appealed to supervising inspector, second district, who rendered decision, July 25, reversing the decision of the local inspectors.

June 22.—An investigation was held into the matter of complaint made by Easton and Amboy Railroad Company, that Thomas McDonald, chief engineer of towing steamer *Ganoga*, did, on May 1, wrongfully and unreasonably refuse to serve in his official capacity on said steamer, and did violate the provisions of section 4449 of the Revised Statutes. Decision, July 10, revoking the license of Mr. McDonald. Case appealed to supervising inspector, second district, who rendered decision, July 25, 1903, reversing decision of the local inspectors.

June 22.—An investigation was held into the matter of complaint made by Easton and Amboy Railroad Company, that James J. Sullivan, chief engineer of towing steamer *Lucerne*, did, on May 2, 1903, wrongfully and unreasonably refuse to serve in his official capacity on said steamer, and did violate the provisions of section 4449 of the Revised Statutes. Decision, July 8, revoking the license of Mr. Sullivan. Case appealed to supervising inspector, second district, who rendered decision, July 25, sustaining the revocation of the license.

June 22.—An investigation was held into the matter of complaint made by the Easton and Amboy Railroad Company, that James Daly, engineer of towing steamer *Gencsee*, did, on the 1st day of May, 1903, wrongfully and unreasonably refuse to serve in his official capacity on said steamer, and did violate the provisions of section 4449 of the Revised Statutes. Decision, July 6, revoking the license of Mr. Daly. Case appealed to supervising inspector, second district, who rendered the decision August 7, reversing the decision of the local inspectors.

June 3.—About 8.45 p. m. towing steamers *Charles H. Senff* and *Gladiator* collided in the East River, causing very slight damage. Both steamers had car floats in tow. No one hurt.

June 3.—About 7 p. m. ferry steamer *West Brooklyn*, while making her slip at the Battery, New York, collided with tug *Lizzie Henderson*, causing slight damage. No one hurt. Investigated, June 17. Decision, June 25, suspending the

license of Capt. Jervis Goutches, of the ferryboat *West Brooklyn*, also the license of William Kuehl, of the steam lighter *Lizzie Henderson*, for a period of 10 days each.

June 4.—On the 7.35 a. m. trip of the ferry steamer *Cincinnati* a male passenger jumped overboard and was drowned. Name not known.

June 6.—About 10.40 p. m. steam yacht *Niagara* collided off Twenty-ninth street, East River, with barge in tow of steamer *Laura M. Starin*, causing some damage to the barge. The yacht was lying at anchor when the barge struck her. No one hurt.

June 7.—About 4.30 a. m., while tug *Laura B. Treusch* was lying at Warren street, Jersey City, fire broke out, causing damage of about $2,500 before put out. Cause of fire unknown. No one hurt.

June 10.—About 3.05 p. m. car float in tow of tug *Nannie Lamberton* collided off Whitehall street, New York, with ferryboat *Easton*, causing very slight damage. No one hurt.

June 10.—Between 9 and 10 p. m., while steam canal boat *Puritan* was tied at dock, at Jersey City, N. J., she sunk. Cause unknown. She was loaded with cement. No one hurt.

June 15.—About 6.30 a. m. passenger steamers *Favorite* and *Cygnus* collided off the Battery, New York, causing slight damage. No one hurt.

June 20.—About 10 p. m., while fishing steamer *Eclipse* was lying at dock at Islip, N. Y., fire broke out, destroying part of the pilot house before being extinguished. Cause unknown. No one hurt.

June 22.—Barge in tow of tug *Charles Runyon* collided off South Brooklyn, N. Y., with steam yacht *Inga*, causing very slight damage. No one hurt.

June 29.—John Burrows, an employee of the ferry company, while on ferry steamer *Metcor*, at Shooters Island, N. Y., and while steamer was entering her slip, fell overboard and was drowned.

July 1.—While towing steamer *Robert Palmer* was off Sandy Hook light-ship with a dumper in tow, the captain of the dumper, in trying to knock out the pockets of the dumper, fell overboard and was drowned.

July 1.—About 4.45 p. m. steamer *Sagamore* collided in the Harlem River with towing steamer *Yozephie*, with coal boats in tow, causing some damage to the canal boats. No one hurt. Damage to canal boats estimated at $1,000.

July 2.—About 6.40 a. m. car floats in tow of tugs *John L. Brainard* and *Henry U. Palmer* collided off pier 50, East River, causing slight damage. No one hurt.

July 7.—Steam lighter *City of Yonkers* collided off the Battery, New York, with steamer *Arthur W. Palmer*, with car floats in tow, causing considerable damage to the *City of Yonkers* and very slight damage to the *Arthur W. Palmer*. No one hurt.

July 8.—While steam yacht *Felicia* was in Peconic Bay, New York, two of the pipes in the boiler gave way. Two men were injured. Steamer was brought to dry dock for repairs. Damage to boiler estimated at $500.

July 9.—An investigation was held into the matter of complaint made by Samuel L'Hommedieu that John O'Rourke, chief engineer of towing steamer *S. L'Hommedieu*, did, on and after April 30, 1903, wrongfully and unreasonably refuse to serve in his official capacity on said steamer and refused to deliver a statement in writing of reason for such refusal and violating section 4449 of the Revised Statutes. Decision, July 14, revoking the license of Mr. O'Rourke. Case appealed to supervising inspector, second district, who rendered decision, July 31, reversing the decision of the local inspectors.

July 12.—About 3.13 p. m. ferry steamer *New York* collided in the East River with steam yacht *Clifton*, causing damage to the ferryboat of about $100 and to the steam yacht of about $500. No one hurt. The ferryboat had just left her slip.

July 18.—About 12.15 a. m. steamer *Central Hudson* collided off Esopus light, Hudson River, with sailing sloop *Contrivance*, causing the sloop to sink, and her captain was drowned.

July 21.—About 7.40 a. m. barge in tow of tug *Nannie Lamberton* collided off the Battery, New York, with sail lighter in tow of tug *Sadie E. Ellis*, causing slight damage. No one hurt.

July 21.—About 12.15 a. m. tows of towing steamers *Transit* and *Ganoga* collided in the Kill Von Kull, Staten Island, causing slight damage. No one hurt.

July 22.—About 3.30 p. m. scow in tow of tug *John D. Dailey* collided in East River with car float in tow of tug *Eli B. Conine*, causing slight damage. No one hurt.

July 24.—About 6.30 p. m. ferry steamers *Easton* and *Pierrepont* collided at foot of Whitehall street, New York, causing very slight damage. No one hurt.

July 30.—About 5.15 p. m., while police steamer *Patrol* was operating at fire on an Italian bark near Robbins Reef, New York Harbor, she collided with barge *Theresa*, causing slight damage. The barge was at anchor. Damage to steamer, about $50 and to barge about $100. No one hurt.

August 1.—About 1.45 p. m. excursion steamer *Orient* collided with the passenger steamer *General Putnam* off Twenty-eighth street, East River, causing slight damage. No one hurt.

August 4.—About 2.50 p. m. ferry steamer *Mineola* collided off Whitehall street, New York, with car float in tow of tug *Transfer No. 12*, causing some damage. No one hurt.

August 5.—About 5.10 p. m. steam yacht *Arrow* collided in New York Bay with a submerged mud scow, causing some damage to the yacht. No one hurt.

August 7.—On the 7 p. m. trip of excursion steamer *Howard Carroll* from Glen Island, N. Y., and when off Port Morris, East River, she collided with an auxiliary sail and naphtha vessel, causing some damage. No lives lost.

August 7.—About 5.30 p. m. excursion steamer *Edmund Butler* collided off the Battery, New York, with towing steamer *Pocahontas*, causing slight damage. No one hurt.

August 9.—About 11.30 a. m. scow in tow of tug *Henry H. Stanwood* collided off the Battery, New York, with towing steamer *Wrestler*, causing slight damage. No one hurt.

August 12.—On the 11.15 p. m. trip from Jersey City of the ferry steamer *Philadelphia* a man who was a passenger on steamer jumped overboard and was drowned. Name not known.

August 14.—About 11 p. m. excursion steamer *John Sylvester* collided in the East River with towing steamer *Wilmington*, causing slight damage. The *John Sylvester* had a barge in tow, which was damaged. No one hurt.

August 15.—On the 4 p. m. trip of the excursion steamer *William Storie*, from Midland Beach, N. Y., to New York, she collided in New York Bay, near Governors Island, with towing steamer *Jas. S. T. Stranahan*, causing considerable damage. No one hurt.

August 17.—About 2 p. m. ferry steamer *Hopatcong* collided off Hoboken, N. J., with towing steamer *Rondout*, causing damage of about $100. No one hurt.

August 18.—About 5 p. m., while towing steamer *John J. White* was laid up at foot of Essex street, Jersey City, N. J., she sunk from some unknown cause. No one hurt. Steamer was raised and put on dry dock for repairs.

August 21.—On the trip of the steamer *Larchmont*, from Providence, R. I., to New York, a young woman, who was a passenger, jumped overboard and was drowned.

August 22.—About midnight the excursion steamer *Pegasus* collided off the Battery, New York, with towing steamer *Catasauqua*, causing slight damage. No one hurt.

August 22.—About 4.30 p. m., when coming from the yacht races, the steam yachts *Vamoose* and *Vixen* collided in the Swash channel, New York Harbor, causing slight damage. No one injured.

August 23.—When steam yachts *Mohican* and *Rheclair* were coming to anchor off Ardsley, Hudson River, they came together, causing slight damage. No one hurt.

August 25.—About 3.15 p. m., when returning from the yacht races, and in the Swash channel, near Romer light, the steam yacht *Corsair* collided with excursion steamer *Monmouth*, causing slight damage. No one hurt. Investigated September 14; decision, September 28, suspending the license of Captain Martin, of the steamer *Monmouth*, for 15 days, and of Captain Porter, of the *Corsair*, for 5 days.

August 25.—About 4.20 p. m. fire broke out in boiler room of steam yacht *Taro*. Fire put out and steamer put into dock. Damage very slight. Cause of fire unknown. No one hurt.

August 26.—About 2 p. m. ferry steamer *Mauch Chunk* collided off the Battery, New York, with cattle steamer *John Stevens*, causing slight damage. No one injured.

August 27.—About 9.30 a. m. steam yacht *Sagamore* collided in the East River with freight steamer *Alsenborn*, causing slight damage. No one hurt.

August 29.—About 6.10 a. m. ferry steamer *Annex* collided in the East River with steam yacht *Felicia*, causing slight damage. No one hurt.

September 2.—About 6.30 a. m. ferry steamer *Joseph J. O'Donoghue* and passenger steamer *Fulton Market* collided in the East River, causing slight damage. No one hurt.

September 2.—About 2:20 p. m. ferry steamer *Lakewood* collided in the North River with excursion steamer *Cetus*, causing slight damage to the *Cetus*, but about $500 damage to the *Lakewood*. No one hurt.

September 2.—About 10 a. m. steamship *H. M. Whitney* collided in the East River with U. S. Navy steamer *Scorpion*, causing considerable damage to both vessels. No one hurt.

September 3.—About 4.50 p. m. excursion steamers *Orient* and *Howard Carroll* collided in the East River, causing very slight damage. No one hurt.

September 5.—About 5 a. m. passenger steamers *Richard Peck* and *Pequot* collided in the East River, causing very slight damage. No one hurt. Steamers were turning around Throgs Neck when the accident occurred.

September 8.—About 7 a. m. towing steamers *Roselle* and *Theodore Smith* collided in the North River, causing some damage. No one hurt.

September 8.—About 2 p. m. fire broke out on towing steamer *Col. E. A. Stevens*, forward of the boiler. Steamer was run ashore at Hoboken, N. J., and fire put out. Cause of fire unknown. No one hurt.

September 10.—About noon towing steamers *O. L. Halenbeck* and *Freehold* collided off Communipaw, N. J., causing some damage. No one hurt.

September 11.—About 2.15 p. m. steam yacht *Rival* collided off Communipaw, N. J., with towing steamer *General Newton*, causing slight damage. No one hurt.

September 11.—About 12.10 p. m. ferry steamer *Hamburgh* collided off Barclay street, North River, with towing steamer *Edward J. Berwind*, causing considerable damage to the ferry steamer. No one seriously hurt.

September 11.—During a hurricane off the Florida coast, O. P. Reierson, mate of the steamship *Atlas*, fell overboard and was drowned.

September 16.—About 5.20 a. m. towing steamers *New York Central No. 13* and *New York Central No. 3* collided in the North River, causing some damage. Both steamers had tows. No one hurt.

September 16.—During a severe storm the passenger steamer *S. E. Spring* went ashore at Woods Point, Indian Harbor, Long Island Sound. Passengers and crew got off without accident.

September 17.—About 4.45 p. m. float in tow of tug *Transfer No. 12* collided in Hell Gate with steam yacht *Anita*, causing very slight damage. No one hurt.

September 17.—During a severe storm the barge *Narragansett*, while in tow of tug *Nathan Hale*, on her way from Norfolk, Va., sunk at sea. No lives lost. Loss of barge estimated at $30,000.

September 23.—About 4.30 p. m. the ferry steamer *Newark* collided in the North River with passenger steamer *William Fletcher*, causing slight damage. No one hurt.

September 26.—About 10.25 a. m. ferry steamer *Newark* collided in the North River with steamship *Pretoria*, causing slight damage. The *Pretoria* was on her way out to sea. No one hurt.

September 28.—About 4.30 p. m. ferry boat *Mineola* collided off the Battery, New York, with towboat *Traffic*, causing very slight damage. No one hurt.

September 29.—Freight steamer *City of Yonkers* was reported to the collector of customs at New York for violation of law in having been navigated after the expiration of her certificate of inspection on September 22, 1903.

September 29.—Towing steamer *Silex* was reported to the collector of customs at New York for violation of law in having been navigated after the expiration of her certificate of inspection on September 9, 1903.

September 30.—About 3.45 p. m. while tugboat *Protector* was going into slip at Seventeenth street, Hoboken, N. J., James Gordon, a colored cook on the tug, fell overboard and was drowned.

October 7.—About 4.20 a. m. freight steamer *Rover*, with scow in tow, grounded on West Way, and leaked so badly that vessel was beached. No lives lost.

October 12.—About 10 a. m. canal boat in tow of tug *Empire* collided in the East River with steamer *Leonidas*, causing the canal boat to sink. The steamer also struck the tug *Empire*. No one hurt.

October 15.—About 11.30 a. m. the crank-pin strap on engine of ferryboat *John G. Carlisle* broke, causing the beam crossheads and guides to break. Cylinder bottom and lower steam chest and piston were also damaged. No one hurt.

October 17.—Two sand scows towed by tug *Anson M. Bangs* fouled the Sandy Hook light-ship, caused by strong wind. Damage slight. No one hurt.

October 19.—About 9 p. m. ferry steamer *Cincinnati* collided in the North River with an unknown tug towing a mud scow. Damage very slight. No one hurt.

October 19.—Towing steamer *Edward J. Berwind* was reported to the collector of customs at New York for violation of law in having been navigated after the expiration of her certificate of inspection on October 6, 1903.

October 20.—About 5.15 p. m. two canal boats in tow of tug *George L. Garlick* collided with float in tow of tug *Thomas Flannery* in the North River, doing considerable damage to the canal boat and some to float. A woman on one of the canal boats was injured.

October 21.—About 7 p. m. tug *Henry H. Stanwood* collided with towboat *Idlewild* off South Ferry, New York, causing considerable damage to the *Henry H. Stanwood*, and causing the vessel to leak badly. No one hurt.

October 21.—At 2.30 p. m. barge *Widow's Son* in tow of steamer *Brilliant* collided off pier 47, North River, with towboat *R. J. Barrett*, doing considerable damage to the barge and slight damage to the *R. J. Barrett*. No one hurt.

October 22.—About 11.30 a. m., while ferry steamer *Montana* was lying still in the middle of East River, between East Twentieth street and Greenpoint, she was run into by the tugboat *Zouave*, causing slight damage. No one hurt.

October 22.—About 12.40 p. m. ferry steamer *Steinway* collided in Hell Gate with passenger steamer *Fidelity*, doing slight damage to both steamers. No one hurt.

October 22.—About 6 p. m. float in tow of tug *New York Central No. 10*, collided off the West Shore Ferry, Weehawken, with mud scow in tow of tug *Tacoma*, resulting in damage to float. No one hurt.

October 24.—About 4.30 p. m. towboat *Brilliant* collided off the South Ferry with two scows in tow of tug *Phœnix*, causing considerable damage to the *Brilliant*. No one hurt.

October 24.—About 3.20 p. m. steamship *Excelsior* collided off pier 34, North River, with scow in tow of tug *John Fleming*, causing some damage to the steamship and slight damage to scow. No one hurt.

October 25.—At 5.51 p. m. ferry steamer *Fanwood* collided in the North River with scow in tow of unknown tug, causing very slight damage to the scow. No one hurt.

October 28.—At 5.30 p. m. float in tow of tug *Transfer No. 12* collided off James slip, East River, with ferry steamer *Somerset*, causing damage to the float. No one hurt.

October 28.—About 11.20 a. m. schooner in tow of tug *Wm. J. McCaldin* collided at Oak Point Station, East River, with float in tow of tug *Transfer No 10*, causing slight damage to the schooner. No one hurt.

October 28.—About 11.15 a. m. freight steamer *Communipaw* collided near Governors Island with freight steamer *Transfer*, causing slight damage to the *Communipaw*. No one hurt.

October 29.—About 4.30 p. m. freight steamer *T. L. Sturtevant*, with a barge in tow, collided in the East River with ferry steamer *Whitehall*, causing slight damage. No one hurt.

October 31.—About 6 p. m. steamers *Longfellow* and *Herman Winter* collided in the East River, causing considerable damage to the *Longfellow* and injuring two men on that steamer.

November 1.—About 9.50 p. m. towing steamers *Siler* and *Titan* collided off the Battery, New York, causing some damage. Both steamers had tows. No one hurt.

November 7.—About 5.25 a. m. ferry steamer *Robert Garrett* and towing steamer *Leonard J. Busby* collided off St. George, Staten Island, causing some damage. No one hurt.

November 12.—While passenger steamer *Tremont* was on her way from Providence to New York a man who was a passenger on the steamer jumped overboard and was drowned.

November 12.—About 1.36 p. m. ferryboat *Atlantic* collided in the East River with steam lighter *John C. Craven*, causing slight damage. No one hurt.

November 14.—About 5.20 a. m. ferry steamer *Haarlem* collided near Hell Gate, East River, with towing steamer *Grit*, causing very slight damage. No one hurt.

November 15.—About 11.15 a. m., in the vicinity of Hell Gate, schooner in tow of tug *Andrew J. White* collided with schooner in tow of tug *Castle Point*, causing slight damage. No one hurt.

November 16.—About 5 p. m. ferry steamer *Hauck Chunk* and steamer *Shinnecock* collided off Whitehall street, New York, causing very slight damage. No one hurt.

November 18.—About 4 p. m. towing steamers *Daisy* and *Seven Brothers* collided off Hoboken, N. J., causing slight damage. No one hurt.

November 18.—About 4 p. m. towing steamers *Border City* and *Nyack* collided in the East River, causing slight damage. No one hurt.

November 19.—Steamer *Silex* was reported to the collector of customs at New York as having been navigated without certificate of inspection. Vessels was inspected September 26, 1903, and found short in equipments; the agent was notified on September 29 and November 16. Affidavit was made at this office on November 18 by William Barker, the master of the steamer, that requirements had been complied with. At time of making affidavit William Barker, the master, stated that the vessel had been running ever since inspection on September 26. Violation section 4423, Revised Statutes.

November 21.—While steamship *Monroe* was at sea, on her voyage from Norfolk to New York, fire was discovered in the hold. Steam was turned into compartment and on arrival in New York fire was put out A good deal of cargo was destroyed, but no injury to the ship. Cause of fire unknown. No one hurt.

November 21.—About 8 p. m., while steamship *Denver* was at sea on her trip from Galveston to New York, she collided with sailing vessel *Araby Maid*, causing the sailing vessel to sink soon after the accident. All of the crew of the *Araby Maid* were taken on board the *Denver;* but two of them, who had been very ill with fever, died soon after having been brought aboard.

November 28.—About 3.30 p. m. towing steamers *R. W. Burke* and *Phoenix* collided off pier 9, East River, causing slight damage. No one hurt. Accident caused by log in propeller of tug *Phoenix*.

November 30.—Towing steamer *Golden Age* was reported to the collector of customs at New York as having been navigated after the expiration of her certificate of inspection. Vessel was inspected November 4, 1903, and owners notified, on November 5, of requirements. This office was notified, on November 30, that requirements had been complied with; safety valve set by an inspector on November 30. Engineer stated that vessel had been running about ten days, between November 4 and 30.

December 1.—About 6.15 a. m. towing steamers *Hercules* and *Idlewild* collided in the upper New York Bay, causing the *Idlewild* to sink almost immediately. Three of the crew of the *Idlewild* were drowned and another man injured. Some damage to tug *Hercules*, but none of her crew injured. Investigated December 12. Decision, December 21, suspending the license of Stephen Vickery, master, and William Norman, pilot, of the *Idlewild*, and of Edward W. Davis, pilot of the *Hercules*, for thirty days each.

December 4.—About 6.40 a. m. scow barge in tow of tug *D. S. Arnott* collided in the North River with towing steamer *Jessie Russell*, causing the latter to sink. No one hurt. Investigated December 12. Decision, December 31, suspending the license of William Connors, master of the *Jessie Russell*, for 30 days.

Certificate of inspection of steamer *William F. Reed* expired on November 21, 1903. Vessel was navigated on November 23, 1903. Reported to collector of customs at New York on December 7, 1903.

Last certificate of inspection of towing steamer *Enterprise* expired on November 1, 1903. Vessel was navigated on November 2, 1903. Statement made by master, George W. Sofield, to the assistant inspector making the inspection on November 5, 1903. Reported to the collector of customs at New York on December 11, 1903.

December 16.—About 5.50 p. m. towing steamer *Joshua Lovett* collided off Harts Island, Long Island Sound, with towing steamer *Shawanese*, causing some damage. No one hurt.

December 16.—About 6.45 a. m. steam lighter *Columbia* collided in the North River with ferry steamer *Kingston*, causing the *Columbia* to sink. Damage to the *Kingston* slight. No lives lost. To be investigated.

December 16.—About 4 p. m. towing steamer *S. O. Co. No. 12* collided in the East River with ferry steamer *Tennessee*, causing slight damage. No one hurt.

December 18.—The man in charge of a scow in tow of the tug *John D. Dailey* fell overboard and was drowned. Tug was in the East River at the time.

December 19.—About 6.20 p. m. ferry steamer *Chester W. Chapin* collided off South Ferry, New York, with towboat *Edwin H. Mead*, causing slight damage. No one hurt.

December 22.—About 11.40 a. m. ferry steamer *America* collided in the East River with U. S. torpedo boat *Winslow*, causing considerable damage to the *America*. No one hurt.

December 22.—About 6.30 p. m. towing steamers *Franklin N. Brown* and *T. A. Briggs* collided off the Battery, New York, causing slight damage. No one hurt.

December 26.—About 12.45 p. m. passenger steamer *Taurus* collided off the Battery, New York, with ferry steamer *John G. Carlisle*, causing some damage. A heavy wind was blowing at the time, which blew the ferryboat away from her dock as she was trying to enter slip. No one hurt.

December 29.—Towing steamers *Windber* and *Jason* collided in the East River, causing some damage to a tow of the *Windber*. No one hurt.

LOCAL DISTRICT OF BOSTON, MASS.

1903.

January 3.—Steamer *City of Gloucester* broke her shaft while on the passage from Boston to Gloucester, disabling the steamer. No personal injury. Steamer was towed back to Boston and repairs made. Amount of loss not stated.

January 4.—Mr. Drew Stretch, steward of British steamship *Ultonia*, in some unaccountable manner fell overboard from steamer *Vesta*, off Boston light, and was drowned. Investigation and decision rendered January 23 exonerating the crew of the *Vesta* from blame.

January 18.—A collision occurred between steamship *Old Dominion* and a schooner, name unknown, off Cape Cod. The accident took place at 6.40 p. m., and a vapor was rising from the water at the time. Steamer slightly damaged at stem; damage to schooner unknown. No personal injury.

February 8.—Steam lighter *Wm. S. McGowan* sunk at night while lying at her wharf in Boston, caused by a leaky seam. Subsequently raised and repaired. Amount of loss not stated.

May 20.—A collision occurred between the stern barge of three in tow of steamer *Cuba* and a schooner, name not given, off Cape Cod. The schooner sunk, but the crew were taken from a small boat onto the barge. No lives lost.

June 6.—A collision occurred at entrance to Vineyard Haven Harbor between steamer *Marthas Vineyard* and schooner *Senator Saulsbury* at anchor. The schooner's bowsprit was broken and some joiner work on port side of steamer carried away. One passenger on steamer was slightly injured. A thick fog prevailed at the time. Captain of steamer states he heard no bell from the schooner. Amount of loss not stated.

June 23.—A collision occurred in Boston Harbor between steamers *Bay State* and *Peregrine*. The *Peregrine* was at anchor. The cause of the accident was the breaking of the wheel rope on the *Bay State*, which was coming into port. Damage estimated to be $8,000, covering both vessels.

June 24.—The license of Fred E. Merritt, chief engineer of steamer *Storm King*, was revoked after an investigation of charges against him for wrongfully and unreasonably refusing to serve on said steamer in his official capacity, as per section 4449, United States Revised Statutes.

June 30.—After an investigation of charges of intemperate habits against George W. Metcalf, a marine engineer, a decision was rendered sustaining the charges, and his license was revoked.

July 11.—Steamer *Ilybius* was reported to the collector of customs, port of Boston, for navigating on an expired certificate before making application for inspection. We understand a fine was paid.

July 19.—A collision occurred between steamers *Philadelphia* and *King Philip* near Commercial Wharf, in Boston Harbor. Slight damage to both steamers. No personal injury. The masters of both steamers claim to have blown their whistles on leaving their docks.

July 30.—A collision occurred between steamer *Calvin Austin* and British barkentine *Reform*, in tow of tug *Pallas*, in Boston Harbor. Captain of the *Calvin Austin* claims accident was caused by the crowded condition of the channel at the time. Neither vessel was seriously damaged. No personal injury.

August 7.—Steamers *Monohansett* and *Active* collided in Boston Harbor. The *Active* was damaged around her stem, and bulwarks broken in on the *Monohansett*. No personal injury. Amount of loss not stated.

August 12.—Steamer *D. Maria Amelia* took fire off Long Island, Boston Harbor, and became a total loss. Steamer took fire in engine room and was run ashore, where she burned to the water's edge. Afterwards floated off and sunk. No lives lost or personal injury. Loss about $3,000.

August 15.—Steamer *Wild Goose* broke her shaft and lost propeller near north shore of Massachusetts Bay. Cause unknown. No personal injury, and amount of loss not stated.

August 24.—A slight collision occurred in Boston Harbor between steamers *Henry Wilson* and *City of Haverhill*, caused by the failure of the steam steering gear of the *Henry Wilson* to work properly. Slight damage to *City of Haverhill;* none to the *Henry Wilson*. No personal injury.

September 2.—One of the corrugated furnaces in one of the boilers of steamer *Calvin Austin* collapsed at sea. No escape of hot water or steam, and no personal injury. A careful examination was made by us. No indications of low water, but a slight coating of oil was found in boiler below water line, which is thought to be the cause. Amount of loss not stated.

September 9.—Steamer *Annie Emmons* took fire while lying at her wharf at East Boston at night. Damage estimated at $1,000. No personal injury. Cause of fire unknown.

September 24.—A collision occurred during thick fog, in Vineland Sound, between steamship *Kiowa* and schooner *Howard B. Peck*. The bowsprit and head gear of the schooner were carried away. No injury to steamer. No personal injury. Schooner was towed to Vineyard Haven by the *Kiowa*. Amount of loss not stated.

September 29.—A collision occurred between steamer *City of Gloucester* and ferry steamer *Swanscott* in Boston Harbor. Steamer *City of Gloucester* damaged about $100; amount of damages to *Swampscott* not stated, but her guard and upper works were somewhat injured. No personal injury. Investigated and decision rendered November 30 suspending the license of the pilot on the ferry steamer for 15 days and exonerating the master and pilot of the *City of Gloucester* from blame.

October 27.—Steam tug *William Kemp* broke her shaft in Boston Bay, and as a result, broke pinch wheel and condenser. Steamer was towed into port. No personal injury, and amount of loss not stated.

December 26.—An investigation was held as to a complaint that steamer *City of Gloucester*, Capt. H. M. Godfrey, did not answer whistle signals of Pilot Nielson, of ferry steamer *Dartmouth*, in Boston Harbor. The testimony seemed to be so conflicting, and it being in our opinion that none of the rules were wilfully violated, the case was dismissed.

December 26.—A collision occurred about one mile outside of Boston light, in the bay, during a thick snowstorm, between the steamship *Kiowa*, at anchor, and steamship *Admiral Dewey*, underway, bound out. The *Kiowa* was struck on her port quarter, causing her to sink. There was no loss of life or personal injury. No report has yet been received from the officers of the steamship *Admiral Dewey*.

LOCAL DISTRICT OF PHILADELPHIA, PA.

1903.

January 20.—During a dense fog and heavy sea, which caused lights to be obscured, the steamer *Gulf Stream* ran on Hereford bar, New Jersey, and was totally wrecked. Cargo saved by wreckers.

February 6.—Steamer *Gladys*, while lying at pier 83, north, at about 5 a. m., listed on the rise of the tide and sunk at dock. Steamer raised next day.

February 7.—Steamer *Isabel*, while lying at Stokes wharf, Rancocas Creek, took fire about 3.30 p. m. from some unknown cause and was totally destroyed.

February 28.—The steamer *Belle Miller*, of 255 gross tons, violated section 4438, United States Revised Statutes, in employing Thomas McGoldrick as engineer, whose license calls for engineer in charge of 100 tons. Case referred to United States district attorney for his action.

March 10.—During a dense fog at about 11.35 p. m., 35 miles south of Winter Quarter Shoals, steamer *Watson* collided with schooner *J. D. Dewell*, doing considerable damage to both vessels. Steamer sent boat to schooner, but latter required no assistance, and steamer proceeded on her voyage. No one injured.

March 20.—About 11 o'clock p. m., when coming up the Delaware River, off Marcushook, the tug *Pilot*, assisting the steamer *Winifred* with barge in tow, while slack of hawser of steamer *Winifred* was being taken in, the *Winifred* ran into the *Pilot*, causing the latter vessel to careen, fill, and sink, and resulting in the death by drowning of five of the crew of the steamer *Pilot*. Every effort was made by the crew of the steamer *Winifred* to save the crew of the steamer *Pilot*. Two of the crew were picked up by the barge and one man climbed the anchor of the *Winifred*. Names of drowned men: Alonzo Hazzard, engineer; John Bennett, mate; Frank Atkins, cook; Alfred Paynter, deck hand; unknown fireman.

Investigated May 7. Decision rendered May 8, dismissing case and exonerating licensed officers.

March 23.—During a dense fog and heavy sea, at about 11 a. m., the steamer *Huron* came in collision with the schooner *Dreadnought*, the schooner sinking in about 15 minutes after being struck. Crew of schooner rescued by the steamer's boats.

March 24.—At about 6.15 a. m., during a dense fog, the steamer *Parthian* came in collision with the schooner *Mary E. Morse*, doing considerable damage to the schooner and twisting plates on the steamer. Steamer stood by the schooner and took crew to Boston.

April 2.—While tug *Jas. McCaulley* was towing schooner *Henry O. Barrett* (loaded) the schooner collided with the dredge *Columbia*, at anchor, knocking one man overboard from the dredge, who was drowned, injuring another, and damaging both the schooner and the barge. Investigated April 11, 1903. Decision rendered April 13, dismissing case and exonerating licensed officers involved.

April 8.—Tug *Mascot*, while lying at South street wharf, at about 9 p. m., took fire from some unknown cause, damaging the engine room and fire room.

April 9.—At about 8 p. m., while coming up the Delaware Bay, M. Barnes, an aged man, a passenger on the steamer *Mary U. Githens*, while on lower deck, was seen to stagger toward the rail and went overboard and was drowned. The steamer was immediately stopped and all efforts were made to save him, but without avail, as he failed to come to the surface.

May 5.—At 4.43 a. m., during a dense fog, while proceeding under one bell, the steamer *Hamilton* came in collision with and sunk the steamer *Saginaw*, drowning 6 of her crew and 8 passengers. Boats were lowered from the steamer *Hamilton* and rescued 21 of the crew of the *Saginaw* and 11 passengers. Stewardess of *Saginaw* died in boat after being rescued. Steamer *Hamilton* cruised around about an hour, then proceeded on voyage. Investigation held June 26, 1903. Decision rendered July 1, 1903, dismissing case and exonerating the licensed officers from blame.

May 12.—At about 5.30 p. m. the tug *Harry M. Wall* came in collision with the steamer *Quaker City* off Chestnut street wharf, tearing a hole in the *Quaker City* about amidships. The *Wall* attached a line to the *Quaker City* and made every effort to beach her on the Camden side, but she sunk on the eastern side of ship channel. No lives lost. No one injured. Investigation held May 18, 1903. Decision rendered dismissing case and exonerating licensed officers from blame.

May 20.—Steamer *Beechwood* reported for violation of sections 4417, 4445, and 4454, United States Revised Statutes. This steamer came to this port under her own steam, although her certificate of inspection expired June 14, 1902, having been inspected at New York. The copies of her certificate of inspection had been tampered with, as shown by a copy of her last certificate sent to this board by the collector of customs at New York. The matter was referred to the United States district attorney for his action.

May 27.—Lester A. Blake and Charles E. Blackler, master and mate, respectively, of the steamship *Aragon*, were reported to the United States district attorney for his action, they having violated section 4438, United States Revised Statutes, in navigating said steamer on the Delaware River and Bay without having a licensed pilot on board.

May 31.—Steamer *Nellie*, while lying at Wetherill's wharf, Cohansey Creek, New Jersey, in falling tide settled on a stump and punched a hole in her bottom, which caused her to sink.

June 1.—Investigation held into charges preferred against Henry R. Truitt, a licensed engineer, for disobedience in refusing to answer bells on the steamer *F. A. Churchman*. Decision rendered June 2, 1903, revoking his license as engineer.

June 2.—While lying at pier 55 south at about 10.30 a. m. Arthur Troutman, fireman on the steamer *Evening Star*, had his arm crushed by being caught between the rail and the corner of a lighter. Sent to the hospital.

July 13.—At about 1.20 a. m., 9 miles north of Winter Quarter light-ship, during a heavy rain, the steamer *Guyandotte* came in collision with an unknown schooner. Made schooner's red light, put helm hard aport. Schooner's gaff carried away, searchlight also; knocked port anchor over the bow; broke 6 feet of rail on port side. Do not think vessel's hull touched. Slowed ship owing to heavy rain. Lost sight of schooner. No one injured.

July 18.—While proceeding down the river the steamer *Thomas Clyde* struck some object in the river, broke wheel bulkhead, and damaged the purser's office, causing considerable consternation among the passengers. Immediately turned

boat about and proceeded to Philadelphia, and landed passengers, who had become quieted. No one injured.

July 18.—While proceeding on her down trip the steamer *Cape May* came in collision with wharf at Chester, Pa., tore away about 15 feet of plank sheer and wearing piece, and did some damage to her broadside. No one injured. Immediately proceeded to Philadelphia, Pa., for repairs.

July 27.—Steamer *Southwark*, while lying at pier 28 south, took fire from some unknown cause and was burned to water's edge. Two of crew on board. No one injured.

July 27.—Steamer *Majestic*, while lying at her berth, pier 28 south, took fire from steamer *Southwark*, burning upper part and pilot house. Crew on board. No one injured. Estimated damage, $3,500.

August 3.—Steamer *Henry Steers, Jr.*, while lying at League Island, at about 1.30 a. m., took fire from some unknown cause and was considerably burned. Watchman on board. No one injured.

August 5.—Steamer *Mars*, while towing barges *Monarch* and *Bradley*, at about 4 a. m., during a strong gale and heavy sea, about 5 miles south of Montauk Point, L. I., the barges foundered. Crews taken off.

August 6.—At about 8.20 p. m., while bound down the river from Trenton, N. J., to Philadelphia, Pa., the steamer *Eva Belle Cain*, having barge in tow, came in collision with and sunk the steamer *John E. Thropp* opposite Bristol, Pa. Master of steamer *Eva Belle Cain* claims vessels were meeting end on, or nearly, when steamer *John E. Thropp* suddenly sheered, showing red light, and ran across bow of barge in tow. Every effort was made to avoid collision, but steamer *John E. Thropp* was struck by bow of barge, sinking her. Rescued crew and landed them at Burlington, N. J. Investigated August 26, 1903. Decision: Revoked engineer license of Samuel Lennox for violation of section 4401, United States Revised Statutes, and suspended the second-class pilot license of John C. Malone for 42 days for violation of articles 25, 2 (a), and 29 of inland pilot rules.

August 27.—Reported to collector of customs, Trenton, N. J., the steamer *John E. Thropp* for violation of section 4438, United States Revised Statutes, in navigating without a licensed pilot on August 6 in the Delaware River.

September 1.—Steamer *John E. Thropp* was reported to collector of customs at Trenton, N. J., for violation of section 4417, United States Revised Statutes, in navigating on an expired certificate of inspection.

September 1.—Thomas H. Thropp reported to collector of customs at Trenton, N. J., for violation of section 4438, United States Revised Statutes, in having charge of steamer *John E. Thropp* under steam on August 6, 1903, he being an unlicensed man.

September 16.—At about 7.30 p. m., while coming out of slip at Chestnut street, steamer *City of Reading* came in collision with a car float towed by steamer *Ogontz*, doing slight damage to car float and steamer.

September 16.—At about 5 a. m., during a northeast hurricane, the tug *Spartan*, having in tow three barges bound from Salem, Mass., to Philadelphia, foundered below Brow shoal, Delaware Bay, drowning Albert Lingo, chief engineer, and a deck hand, name unknown.

October 9.—At about 9.40 p. m., while lying at her berth at pier 53 south, steamer *F. A. Churchman* took fire from some unknown cause, burning the main house and galley. Damage slight.

October 17.—While ferryboat *Philadelphia* was on her 7 p. m. trip from Camden, N. J., to Philadelphia, Pa., an unknown man, a passenger, jumped overboard and was drowned. Every effort was made to rescue him but of no avail. Supposed case of suicide.

October 20.—At 2 a. m., the tug *Atkins Hughes*, coming up the Delaware River with schooner *B. F. Poole* in tow, when in the vicinity of Brambles Point, N. J., came in collision with tug *S. A. McCaulley*. Damage slight.

October 30.—At about 3 a. m., weather clear, towing steamer *Jas. McCaulley*, having in tow the schooner *Marie Palmer*, bound down the Delaware Bay, when about 4 miles below Cross Ledge, collision occurred between schooner *Marie Palmer* and schooner *Blanche Hopkins* (under sail), both vessels sustaining considerable damage. Investigated November 9. Decison rendered November 11, censuring master and suspending for 42 days the license of the pilot of the steamer *Jas. McCaulley*.

November 13.—Reported owner of automobile, New Jersey No. 573, to collector of customs, for violation of section 4472, United States Revised Statutes, in having fire in automobile while on board the ferry steamer *Arctic*.

November 27.—At about 6 p. m., while proceeding out of dock at pier 1 south, steamer *Delaware* came in collision with steamer *Fannie*, which was being towed up the river. Had her planking considerably damaged. No one injured.

December 14.—At about 10.45 p. m. the ocean towing steamer *Paoli* came in collision with the ferry steamer *Atlantic City*, doing considerable damage to the steamer *Atlantic City*. No one injured. Investigated December 30, 1903. Decision rendered December 31, 1903, exonorating licensed officers involved from all blame.

December 23.—Reported that between 11 and 12 a. m. the steamer *Penllyn* sunk a small rowboat containing one man (name unknown), resulting in the death of the said occupant of rowboat. Investigated December 24, 1903. Decision rendered December 24, that the licensed officers did all in their power to avert the accident and made every effort to revive the man after being picked up, and that there was no evidence to show that any of the licensed officers were at fault or that a collision had taken place.

LOCAL DISTRICT OF NEW LONDON, CONN.

1903.

March 19.—Steamer *Plymouth*, en route from New York to Fall River, running in thick fog, at a point between Gull Island, New York, and Point Judith, Rhode Island, was struck on the starboard bow, abreast pilot house, by steamer *City of Taunton*. Killed and drowned, five of crew and one passenger. Injured, four. Damage to *Plymouth*, estimated, $20,000. Damage to *City of Taunton*, estimated, $3,000. Case investigated April 3 and 7, 1903. Testimony showed the collision to have been unavoidable, owing to atmospheric conditions. Decision rendered April 10, 1903, exonerating licensed officers of both steamers from blame.

July 22.—Steamer *Seaboard*, Mark Kirby, master, en route from New York to Boston, during thick fog struck Government dock at Gull Island, New York. No lives lost or persons injured. Steamer proceeded unaided to New London, Conn., for repairs. Amount of damage not given.

August 13.—Steamer *Waiontha*, en route from Hartford, Conn., to Greenport, N. Y., was totally destroyed by fire near Shears shoal, Connecticut River. Cause of fire unknown. Loss, $12,000. No lives lost or persons injured.

October 1.—Freight steamer *Oregon*, E. C. Potter, master, moored at fish works wharf, Black Point, Connecticut, took fire between 1 and 2 a. m. and was totally destroyed. Origin of fire unknown. No lives lost or persons injured. Estimated loss, $3,500.

LOCAL DISTRICT OF ALBANY, N. Y.

1903.

June 25.—The tug *Paul Le Roux* was bound for Troy, N. Y., with an excursion barge in tow. When about abreast of the Watervliet Arsenal the shaft broke, breaking bed plate and eccentric rods. Estimated damage, $900.

July 2.—The ferry steamer *Elting Anderson*, while bound from Coxsackie, N. Y., to Athens, N. Y., caught fire from some unknown cause and was totally destroyed. There were no passengers on board. No lives were lost and no person injured. Amount of loss, $3,000; insurance, $2,000.

July 17.—The steamer *Central Hudson* came in collision with the sloop *Contrivance* above Esopus light, caused, as reported, by the sloop going about in the track of the steamer, it being impossible to stop and sheer clear of the vessel. The sloop was sunk and Captain Delany, of the sloop, was drowned.

August 8.—The tug *Dana B. Wotkyns*, bound from Albany, N. Y., to Troy, N. Y., when abreast of Breaker Island, caught fire from some unknown cause and was totally destroyed. Value, estimated, $7,000; amount of insurance carried, $3,000.

September 16.—The tug *John R. Williams*, bound from Albany, N. Y., to Athens, N. Y., when abreast of Castleton, N. Y., caught fire and was totally destroyed. Tug was valued at $4,500; amount of insurance, $3,000. No lives lost and no one injured.

October 9.—The steamer *Saratoga*, in attempting to pass through Congress Street bridge at Troy, N. Y., in a heavy freshet, came in contact with one of the piers of the bridge. Amount of damage not reported. No lives lost and no person injured.

November 22.—The steamer *Saugerties*, lying at her dock at Saugerties, N. Y., caught fire and was totally destroyed. One of the deck hands lost his life in attempting to obtain his clothes from the forecastle after being ordered ashore. Amount of loss, $85,000. Amount of insurance carried, $69,000.

December 7.—The passenger steamer *Ella*, while lying at the dock at Athens, N. Y., was cut through by running ice. The steamer has not been raised. We therefore are unable to report the amount of damage.

December 13.—The tug *Wm. S. Earl*, while lying at the dock at Rondout, N. Y., caught fire from some unknown cause and was damaged to an estimated amount of $2,500.

LOCAL DISTRICT OF PORTLAND, ME.

1903.

January 4.—Steamer *Lorna*, when off Mosquito Island, Maine, broke connecting rod and cylinder of low-pressure engine. Damage estimated at $30. No other loss or damage.

April 10.—As steamer *Emita* was approaching her dock at Peaks Island, Portland Harbor, Maine, Charles Hendricksen, a deck hand, while removing the forward gangway rail, fell overboard and was drowned.

May 18.—Steamer *L. A. Belknap*, at dock for the night under banked fires, caught fire at or near engine-room bulkhead. Supposed to be from kerosene-oil lamp left burning there. Pilot house and deck houses were destroyed. Loss estimated at $2,500.

May 31.—Steam launch *Helen* burned at her landing at Dover Point, N. H. Cause of fire not known.

June 11.—Steamer *Horatio Hall* collided with schooner *Valdare*, about 50 miles south of Cape Elizabeth. Dense fog at the time and no signals heard from vessel. Schooner had head gear carried away. No damage to steamer.

August 19.—Steamers *Frank Jones* and *City of Bangor* were in collision off breakwater, Rockland Harbor, Maine. Some fog at the time and misunderstanding of signals. Both steamers damaged at guard and paddles only.

December 6.—Steamers *Forest Queen* and *Cumberland* were in collision close to dock, in Portland Harbor. Slight damage to both steamers.

December 23.—While steamers *Portland* and *Cumberland* were towing gate for United States navy-yard dock from Bath to Kittery, Me., when entering Piscataqua River towing chock on gate gave way and hawser struck one of her crew, breaking his leg and throwing him overboard. Rescued by crew of *Portland*.

LOCAL DISTRICT OF PROVIDENCE, R. I.

1903.

January 21.—At 12.30 p. m. steamer *Seaboard*, while on trip from New York to Boston, entering Narragansett Bay for harbor, during high winds, heavy seas, and dense fog, stranded on south end of Dutch Island. No lives lost. Steamer was floated later and placed on dry dock. Damage, about $6,000.

May 1.—At 4 a. m. barge *Fidelia*, in tow of steamer *James Hughes*, sunk near Hen and Chickens light-ship. Barge had sprung a leak. No lives lost.

June 10.—Investigated case of complaint against Richard Olsen for alleged violation of section 4445, Revised Statutes of the United States. Case dismissed July 3, 1903.

August 4.—About 12.15 a. m. scow *No. 23*, in tow of steamer *Reliance*, was lost off Popasquash Point, Narragansett Bay. Scow was leaking. Wind blowing fresh, and raining. No lives lost.

August 9.—About 2.30 p. m. barge *Volunteer*, in tow of steamer *C. B. Sanford*, sprang a leak and sunk at a point between Point Judith and Beavertail. No lives lost.

September 13.—About 7 p. m. passenger steamer *New Shoreham* grounded off Fort Adams, Narragansett Bay. Accident occurred during thick fog while steamer was trying to clear a tug with five barges in tow. Steamer was pulled off later by same tug. Damage slight. No one injured.

October 15.—Fishing steamer *Spy* was destroyed by fire while lying at her dock at Tiverton, R. I. Origin of fire not known. Vessel valued at from $2,500 to $3,000. No lives lost. No one injured.

LOCAL DISTRICT OF BANGOR, ME.

1903.

February 28.—Steamer *Penobscot* went ashore on Odoms Ledge in Penobscot River during thick fog. Floated next day and returned to Boston for repairs. No report made of cost of repairs.

June 28.—Sail vessel *George A. Walcott* found being navigated without certificate of inspection. Reported to collector of customs at Bangor, Me.

LOCAL DISTRICT OF NEW HAVEN, CONN.

1903.

August 12.—The fishing steamer *Falcon* and sloop yacht *Wenonah* collided off Falkners Island. Masts, bowsprit, and rigging of yacht were demolished, and yacht was towed to New Haven Harbor by steamer. Case investigated on August 26, and as steamer did not have licensed master and pilot the case was reported to United States customs officers at New Haven. No lives lost. No damage to steamer. Damage to yacht unknown.

August 19.—Scow in tow of tug *American* grounded off Sachem Head, Conn. No damage done. Case considered an unavoidable accident.

August 26.—Steamer *H. M. Whitney* collided with schooner *John Booth* 10 miles east of Stratford Shoal. The schooner was cut in two and immediately sunk. Five of the crew and a friend of the captain of the schooner were drowned. Case investigated on October 8 and continued until November 28. Decision rendered November 30, exonerating the officers of the steamer from blame.

September 16.—Steam pleasure yacht *Ceres* sunk at her moorings off New Haven Yacht Club, New Haven Harbor, during storm of this date. No lives lost. Hull a total loss; machinery to be taken out.

October 1.—Steamer *Celtic* foundered off Saybrook about one-half mile northwest of light. No lives lost. Machinery to be removed.

December 4.—Fire broke out on steamer *Stratford* at New Haven, Conn., due to spontaneous combustion. Damage, about $1,000.

December 24.—Steamer *Erastus Corning* struck submerged obstruction west southwest from Stratford Point light and was beached. Freight and passengers removed in safety. Case to be investigated.

ROBERT S. RODIE,
Supervising Inspector, Second District.

The SUPERVISING INSPECTOR-GENERAL,
Washington, D. C.

THIRD DISTRICT.

STEAMBOAT-INSPECTION SERVICE,
OFFICE OF U. S. SUPERVISING INSPECTOR,
Norfolk, Va., December 31, 1903.

SIR: In compliance with the provisions of section 4410, Revised Statutes, I submit the following report of the general business transacted in the third supervising district during the year ended December 31, 1903:

Vessels inspected, added to service, etc.

Local district.	Inspected		New vessels added to service.		Gone out of service.		Gone into other districts.	
	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.
Norfolk, Va	271	75,150	11	6,745	3	341	27	50,887
Baltimore, Md	365	254,904	20	18,547	7	1,829	22	24,994
Charleston, S. C	127	17,478	8	344	8	252	27	4,093
Savannah, Ga	131	55,380	10	938	2	570	3	590
Jacksonville, Fla	86	8,961	4	170	3	68	5	356
Total	980	411,873	53	26,744	23	3,060	84	80,899
Total in previous year	962	396,318	49	49,962	23	2,777	84	58,657
Decrease				23,218				
Increase	18	15,555	4			283		22,242

Boilers inspected.

Local district.	Number inspected.	Number defective.	Number condemned.	Defects in boilers and attachments.				
				Sheets.	Steam and mud drums.	Steam pipes.	Flues and tubes.	Boiler heads.
Norfolk, Va	299	18	1	99	1	12	1,356	1
Baltimore, Md	625	65	28	325	15	28	5,400	15
Charleston, S. C	138	17	3	4		3	900	2
Savannah, Ga	136	9	1	1	1	1	9	4
Jacksonville, Fla	96	6		1		1		
Total	1,294	115	33	430	17	45	7,665	22
Total previous year	1,150	159	13	319	31	31	8,211	34
Decrease		44			14		546	12
Increase	144		20	111		14		

Officers licensed.

Local district.	Steam and other motor vessels.							Sail vessels and barges.		Total.
	Masters.	Masters and pilots.	Mates.	Mates and pilots.	Pilots.	Joint pilots and engineers.	Engineers.	Masters.	Chief mates.	
Norfolk, Va	3	37	7	1	74	4	110	1	1	238
Baltimore, Md	10	52	9	14	89	5	146	5		330
Charleston, S. C	1	14	2	1	27	15	40			100
Savannah, Ga	2	24	2		19	11	36			94
Jacksonville, Fla	1	9	3		35	3	59			110
Total	17	136	23	16	244	38	391	6	1	872
Total in previous year	10	881	15	36	693	44	1,000	18	13	3,810
Decrease		745		20	449	6	1,209	12	12	2,438
Increase	7		8							

Violations of the steamboat laws.

Local district.	Investigations.					Appeals.			
	Cases investigated.	Dismissed.	Licenses suspended.	Licenses revoked.	Cases reported to district attorney and to chief officers of customs.	Number of appeals.	Decisions revoked.	Decisions modified.	Decisions sustained.
Norfolk, Va	20	10	6	4		1		1	9
Baltimore, Md	9	1	7	4	3				
Charleston, S. C	1								
Savannah, Ga									
Jacksonville, Fla	6	1	6	1	2	1	2		4
Total	36	12	19	9	5	2	2	1	13
Total previous year	14	2	13	1	15	3	1	1	4
Decrease					10	1			
Increase	22	10	6	8			1		9

Expenditures during the year ended December 31, 1903.

District.	Salaries.	Traveling expenses.	Incidentals.	Total.
Supervising inspector, third district	$3,000.00	$753.43	$3.25	$3,756.68
Norfolk, Va	7,371.37	1,114.25	72.09	8,557.71
Baltimore, Md	12,075.00	1,502.85	264.81	13,842.66
Charleston, S. C	3,000.00	1,329.30	14.51	4,343.81
Savannah, Ga	4,200.00	1,059.30	6.00	5,265.30
Jacksonville, Fla	3,400.00	911.50	17.07	4,328.57
Aggregate	33,046.37	6,670.63	377.73	40,094.73

MISCELLANEOUS.

In addition to the regular annual inspections the following boilers and hulls were inspected on United States Government steamers and in United States Government buildings during the year ended December 31, 1903:

UNITED STATES GOVERNMENT STEAMERS.

Local inspection district.	Name of vessel.	Where inspected.	Date inspected.	Number of boilers inspected.
Norfolk, Va	Murcur	Norfolk, Va	Aug. 19	1
Baltimore, Md	Blake	Baltimore, Md	Jan. 13	2
Do	Mercedes	Washington, D. C	June 16	1
Do	Kearney	do	Sept. 18	1
Do	Violet	Baltimore, Md	Nov. 13	1
Do	Blake	do	Dec. 5	2
Do	Endeavor	do	Dec. 28	1
Charleston, S. C	Cynthia	Wilmington, N. C	Feb. 24	1
Do	Ajax	do	May 27	1
Do	Cape Fear	do	do	1
Do	Richard Caswell	do	do	1
Do	H. G. Wright	do	Aug. 15	1
Do	Little Pee Dee	Georgetown, S. C	Aug. 21	1
Do	Great Pee Dee	do	do	1
Do	Carolina	do	do	1

HULLS OF GOVERNMENT STEAMERS INSPECTED.

Baltimore, Md	Mercedes	Washington, D. C	June 16	1
Do	Kearney	do	Sept. 18	1

UNITED STATES GOVERNMENT BUILDINGS.

Local inspection district.	Building.	Where inspected.	Date inspected.	Number of boilers inspected.
Norfolk, Va	Cape Henry light-house	Cape Henry, Va	July 16	2
Baltimore, Md	Treasury Department	Washington, D. C	Mar. 4	6
Do	Bureau of Standards	do	June 25	2
Do	Court-house and post-office	Baltimore, Md	Sept. 14	4
Do	Marine Hospital	do	Oct. 1-3	3

CASUALTIES, VIOLATIONS OF LAW, AND INVESTIGATIONS.

LOCAL DISTRICT OF NORFOLK, VA.

1903.

February 16.—Steamer *Olive*, George H. Withy, master, foundered in Chowan River. Fourteen lives lost as per report of master.

May 2.—Steamer *Norfolk County*, Goodson Miller, master, was in collision with the ferry dock in Portsmouth, a mistake having been made in the transmission of signals between pilot house and engine room. Case investigated and Goodson Miller, master and first-class pilot, was suspended for 30 days for having perons in the pilot house contrary to law.

May 26.—Steamer *Hampton*, J. R. Shelly, master, was in collision with small rowing boat, occupied by a man named Herbert. Mr. Herbert died same night at hospital. Case investigated and J. R. Shelly, master of steamer *Hampton*, was exonerated.

May 27.—A. C. Minter, engineer, was reported by T. H. Myers, agent Old Dominion Steamship Company, for violation of section 4449, Revised Statutes. Case dismissed for lack of evidence.

June 5.—Horace E. Respass, engineer, was reported to this board by Thomas J. Hanlon, assistant inspector of boilers, for violation of section 4441, Revised Statutes, in that he allowed the boiler of tug *E. W. Marts* to become in bad and

dangerous condition, both internally and externally. Case investigated and the license of the said Horace E. Respass revoked.

June 5.—The license of Timothy W. Whitehurst, assistant engineer, was revoked under section 4450, Revised Statutes, for misconduct, in that he obtained his license by false statements to this board.

June 6.—Suspended the license of R. E. Wood, first-class pilot, and George W. Lyons, master and pilot, for 5 days for violation of section 4450, Revised Statutes.

June 8.—Alleged attempt to influence A. M. Hampton, fireman, to disarrange the machinery and electric light on ferry steamer *Elizabeth*. The case investigated June 17, 1903, and decision being that charges against the accused, Charles A. Buck, engineer, not sustained.

July 3.—Howard S. Townsend, acting as chief engineer on steamer *Pennsylvania* while holding license as assistant engineer. Case investigated July 1, 1903, and the license of said Howard S. Townsend was revoked.

July 13.—Steamer *Howard* collided with barge of the New York, Philadelphia and Norfolk Railroad which was in tow of one of the company's tugs. Slight damage to barge. No lives lost and no damage to steamer *Howard*.

July 13.—During heavy rain squall steamer *Guyandotte*, Theo. Catharine, master, collided with an unknown schooner. Damage to schooner unknown; minor damage to steamer *Guyandotte*. Report of collision by master of steamer *Guyandotte*. Referred to local inspectors in whose district casualty occurred.

July 21.—H. K. Swain, engineer, was charged by Frank A. Jones, national president Marine Engineers' Beneficial Association, with obtaining license by perjury and false letters of recommendation. Investigated the case and found the said H. K. Swain guilty of violation of above section and license was revoked.

July 25.—Steamer *Dorchester*, J. R. Ryan, master, collided with fish boat. The occupant of said boat, a colored man, either jumped or fell overboard and was drowned. Every effort was made to save him without avail.

August 11.—Steamer *Pocomoke*, C. L. Haynie, master, was in collision with U. S. launch *Daisy*, sinking said launch. No lives lost. Case investigated, and the license of C. L. Haynie, master, was suspended for 15 days.

August 18.—George Wallace Riddick took passage in steamer *Ocracoke*, A. W. Gard, master, leaving Elizabeth City, N. C., at 6 p. m. The said George Wallace Riddick disappeared and his body was since found at the mouth of North River. It is unknown how this man got overboard.

August 31.—Steamer *Pine Beach*, H. G. Munden, master, was in collision with schooner *Mary L. Crosby*, damaging both vessels above the water line. Case investigated and the license of H. G. Munden suspended for 180 days.

August 31.—Steamer *Arm and Hammer*, Virginius Spry, master, had her house burned off while lying at the dock. No lives lost. Cause of fire unknown.

September 9.—Capt. J. B. Dixon, of the steamer *Mattamuskeet*, was reported to this office as having fallen overboard from steamer *Mattamuskeet* September 9, 1903, near Newburn, N. C., and was drowned.

September 16.—At 8.30 p. m. steamer *Alma*, F. F. Spencer, master, burned and sunk while lying alongside the wharf. Amount of damage unknown. No lives were lost.

September 17.—Steamer *City of Portsmouth*, I. H. Gregory, master, was in collision with barge in tow of steamer *Apollo*, doing considerable damage to steamer *City of Portsmouth;* damage to barge unknown. No lives were lost.

October 15.—Florence Heurtas, engineer, was charged with acting as engineer in charge while licensed as assistant engineer. Case investigated and license suspended for 8 days.

October 23.—W. R. Hays, first-class pilot of steamer *Keystone*, was charged with navigating vessel without proper license. Case investigated and dismissed.

November 13.—While steamer *Albermarle* was on her way to Belhaven, N. C., she ran into and sunk sloop *Cassie*, drowning one man. Sloop is reported to have had no lights up.

November 18.—Steamer *Atlanta*, Edward James, master, and steamer *Norfolk*, Frederick Posey, master, were in collision. Estimated damage to steamer *Atlanta* $1,000. No lives lost or persons injured. Case investigated and both masters were exonerated.

November 24.—Charges were preferred by I. W. Tapley, master of steamship *Princess Anne*, against R. E. Wood, pilot in charge of ferry steamer *Elizabeth*,

with violation of pilot rules. Case was investigated and found charges were not sustained.

November 27.—Steamer *Hustler*, J. T. Machin, master, was sunk in Norfolk Harbor by U. S. S. *Yankton*. No lives lost. J. T. Machin, master of steamer *Hustler*, was exonerated from all blame by Lieutenant Castleman, in charge of steamer *Yankton*.

December 25.—L. C. Chitty, master of steamer *Teaser*, is reported as having left his boat in charge of colored deck hand; also charged with being under the influence of liquor. Case to be investigated.

December 29.—J. P. Nobles, acting first officer of the steamer *Neuse*, was charged with leaving steamer without giving sufficient notice. Case to be investigated.

LOCAL DISTRICT OF BALTIMORE, MD.

1903.

January 13.—Steamer *Chas. J. Baker* collided with motor launch *Adonis* in Baltimore Harbor. Estimated damage to motor vessel, $100.

January 22.—Steamer *Majestic* collided with motor vessel *Mary Brentt* in Baltimore Harbor. Estimated damage to motor vessel, $100.

January 26.—About 8.10 p. m. steamer *Maryland* collided with steamer *Tivoli* in Chesapeake Bay below Sandy Point, Maryland. Estimated damage to steamer *Tivoli*, $800; to steamer *Maryland*, $500. Collision due to navigation being impeded by ice.

January 27.—Investigated charge against William W. Marshall for acting as chief engineer of steamer *Hercules* while en route from Baltimore, Md., to New York, N. Y., he only holding license as chief engineer, lake, bay, and sound steamers of 500 gross tons. Suspended for 10 days.

January 27.—Investigated charge against George M. Vogts for acting as assistant engineer of steamer *Hercules* while en route from Baltimore, Md., to New York, N. Y., he only holding license as assistant engineer, lake, bay, and sound steamers of 500 gross tons. Suspended for 10 days.

February 17.—Investigated charge against John R. Brittingham of obtaining license under false representations. License as first assistant engineer revoked.

February 20.—Investigated charges against Lamar B. Floyd of obtaining license under false representations. License as first assistant engineer revoked.

March 2.—Reported to collector of customs, Baltimore, Md., steamer *Frances C. Tunnell* for violation of section 4417, United States Revised Statutes, by being navigated without being duly inspected, previous inspection having expired November 11, 1902.

April 9.—About 7.05 a. m. steamer *Augusta* collided with steamer *Mary* in Baltimore Harbor, damaging steamer *Mary* about $200. Collision due to fog in harbor.

April 27.—About 7.20 a. m. steamer *Calvert* collided with a canoe in Potomac River, off Ragged Point, demolishing canoe and drowning William A. McKay, of Herring Creek, Maryland. Case investigated May 26, 1903, and first-class pilot's license of Samuel S. Harrington was suspended for 30 days.

May 13.—About 9.25 p. m. steamer *Columbia* was burned at her wharf at Washington, D. C. Cause of fire unknown. Damage estimated at $40,000.

May 15.—About 2.30 p. m. steamer *Caroline* collided with steamer *Tourist* off Port Royal, Rappahannock River. Estimated damage to steamer *Tourist*, $10. Case investigated June 11 and 12, 1903, and dismissed.

May 30.—About 7 a. m. steamer *Queen Anne* collided with Coast Survey steamer *Guthrie*. Damage to steamer *Guthrie* estimated at $80.

June 15.—Reported to collector of customs, Baltimore, Md., steamer *Joseph W. Brooks* for violating section 4417, United States Revised Statutes, by navigating waters of the Atlantic Ocean without being duly inspected, previous inspection having expired December 1, 1901.

July 29.—About 1 a. m. Nathan Botts, deck hand on steamer *Virginia*, was drowned while clearing away the gangway near Hoopers Island wharf, Maryland.

July 31.—About 3.30 p. m. schooner *Hester A. Waters*, towing alongside of tug *M. W. Adams*, collided with schooner *Daisy* in Baltimore Harbor. Estimated damage to both, $25.

August 1.—About 5.45 p. m. steamer *Samuel J. Pentz* collided with steamer *Charles Macalester* on Potomac River. Estimated damage to steamer *Samuel J. Pentz*, $150.

August 7.—About 5.30 p. m. bugeye *B. F. Marsh* collided with steamer *Talbot* in Patapsco River. Estimated damage to bugeye *B. F. Marsh*, $50; to steamer *Talbot*, $10.

August 22.—Reported to collector of customs, Baltimore, Md., motor vessel *Velma Brooks* for violation of section 4426, United States Revised Statutes, by navigating waters of Chesapeake Bay and tributaries without being duly inspected, previous inspection having expired August 13, 1903.

September 1.—About 11 a. m. steamer *Minnie Wheeler* collided with schooner *Edward G. Hight* in Baltimore Harbor. Estimated damage to yawl boat of schooner, $30. No damage to schooner or steamer.

September 2.—About 1.20 a. m. steamer *Virginia* collided with schooner *Levi Phipp* in Wicomico River. Estimated damage to both vessels, $25 to $50.

September 2.—Steamer *Louise* was reported by Thomas W. Lay, captain commanding U. S. S. *Guthrie*, for violating article 18 of rules to prevent collisions. Case investigated September 15 and 25, and master and pilot's license of S. J. Fooks, pilot steamer *Louise*, was suspended for 10 days.

September 24.—About 4.30 p. m. steamer *Endeavor* collided with scow in tow of tug *Oriole*. Estimated damage to scow, $150. Case investigated October 20, 1903, and master and pilot's license of Charles A. Young, pilot steamer *Endeavor*, was suspended for 12 days, and first-class pilot's license of John E. Freburger, pilot tug *Oriole*, was suspended for 7 days.

October 5.—Fire in port coal bunker of tug *Peerless*, in Patuxent River, Maryland; cause unknown. Estimated damage, $300.

October 23.—Investigated cause of burning of boiler of steamer *Jane Moseley*. License of Chief Engineer Robert E. L. Griggsby was revoked; also chief engineer's license of Bartholomew O'Donnell.

November 13.—Steamer *Joe Blackburn* navigated waters of Potomac River without having a properly licensed engineer in charge on November 13, 14, and 15, in violation of section 4438, United States Revised Statutes.

November 14.—About 8.30 p. m. motor vessel *Pioneer* struck some submerged object in Chesapeake Bay and sunk. Crew saved. Estimated damage, $300.

December 6.—About 6.03 a. m. steamship *Essex* collided with barges in tow of tug *Frank K. Esherick* in cut-off channel near Seven Foot Knoll, Maryland. Damage to barges, about $300.

December 9.—About 2 a. m. motor vessel *Lucretia* was burned at Atlantic wharf, Baltimore Harbor. Cause of fire unknown. Damage estimated at $12,000. No lives lost.

December 9.—About 6.05 a. m. steamer *Norfolk* collided with schooner *American Patriot* in Potomac River. Damage to schooner estimated at $300.

December 11.—About 4.05 a. m. steamship *Nantucket* cracked main steam pipe, off the Delaware River, slightly scalding a fireman and a coal passer.

December 14.—About 4 a. m. steamer *Spray* was partly destroyed by fire at Alexandria, Va. Cause of fire unknown. Estimated damage, $300.

December 23.—About 1.05 a. m. steamship *Nantucket* broke tail shaft in Chesapeake Bay, disabling the ship's motive power.

December 27.—Between 4 and 5 a. m. steamer *Alert* was burned at Chase's wharf, Baltimore Harbor, Maryland. Cause of fire unknown. Estimated damage, $2,000. No lives lost.

LOCAL DISTRICT OF CHARLESTON, S. C.

1903.

January 2.—Deck hand on steamer *Lorretta* accidentally fell overboard and drowned near mouth of Santee Canal, South Carolina.

January 13.—Tug *Thomas Morgan*, while towing a raft in Charleston Harbor, grounded on edge of steep bank, near high water. On low water fell off and sunk, drowning a deck hand. Estimated damage to tug, $1,000.

April 2.—While steamer *Georgetown* was lying at Georgetown, S. C., a small boat returning to steamer loaded with wood capsized and drowned Seaman H. Langlehn, sailor.

April 16.—Steamer *Compton*, while lying at Skinner's railways, Wilmington, N. C., caught fire and burned all of superstructure. The estimated loss is $10,000.

There was no crew on board at time, as the steamer was undergoing repairs. It is supposed that the fire caught from hoister alongside.

April 30.—Steamer *Clarence* was totally destroyed by fire at her dock, Charleston, S. C. Cause unknown.

August 15.—On arrival of steamer *City of Fayetteville* at Elizabethtown, N. C., Steward Robert Webb was missing. It is supposed that he committed suicide by jumping into the river, his body being found later.

August 16.—One of the flues cracked in boiler of steamer *Commodore Perry* while on regular route between Charleston and Mount Pleasant, S. C., letting water down low enough to cause furnace crown sheets to become overheated. Accident unavoidable. No one hurt. Damage to boiler, $580.

August 24.—Steamer *Maria C.* blew hole in leg of boiler. The escaping steam frightened one of the crew employed as cook, and he jumped overboard, drowning before assistance could reach him.

October 10.—Steamer *Louisa*, of Georgetown, S. C., while proceeding up Santee River, South Carolina, struck a snag in mid-channel and sunk. No lives lost. Estimated damage, $1,000.

December 21.—Complaint filed against Chief Engineer Robert A. Sellers for intoxication while on duty on steamer *Lillian*, of Wilmington, N. C. On investigation, charges were admitted by Engineer Sellers, and license was suspended for 30 days.

December 23.—While proceeding up Cape Fear River above Wilmington, N. C., steamer *Fawn*, with lighter towing alongside, collided with steamer *A. P. Hurt*, damaging the lighter to the extent of $300.

LOCAL DISTRICT OF SAVANNAH, GA.

1903.

April 3.—Henry Knight, deck hand on steamer *Clifton*, jumped overboard and drowned in Savannah Harbor. Case investigated and no blame attached to officers of steamer.

May 15.—Israel Johnson, fireman on steamer *Harold*, fell from deck and drowned in Savannah Harbor. Case investigated and officers of steamer exonerated from blame.

May 25.—Steamer *Falcon*, Benjamin A. White, jr., master, burned while lying at dock in Satilla River. No loss of life. Origin of fire unknown. Steamer valued at $5,000; insured for $4,000. Estimated loss of cargo, $100.

October 11.—Steamer *John L. Day* sunk at landing at Ocmulgee depot in Ocmulgee River. No loss of life or cargo. Estimated loss on steamer, $2,000.

LOCAL DISTRICT OF JACKSONVILLE, FLA.

1903.

January 9.—Steamer *Alligator* sunk at dock at Palatka, Fla., caused by pipes connected to hull from overboard giving way. No lives lost. Estimated loss, about $500.

February 25.—About 9.52 a. m., while steamer *Mary Howard* was proceeding up the Ocklawaha River, Florida, near Tola Landing, one John Brown, a colored passenger, suddenly fell overboard and was drowned. Probable cause, heart failure. All efforts made to save him.

February 27.—Suspended license of William B. Boyle, engineer, for 60 days, for intoxication while on duty.

March 2.—About 1 a. m. steamer *Trojan* burned to water's edge. No lives lost. Cause of fire, unknown. Steamer valued at $11,000. Amount of insurance, $5,000.

March 19.—About 3.22 a. m. steamer *Metamora* suddenly sunk in the Ocklawaha River, Florida, causing drowning of two members of crew (waiter and deck hand). Cause of sinking investigated, and licenses of Frederick E. Rossignol, chief engineer, suspended for 1 year, and of Frederick Priest, assistant engineer, revoked. Cases appealed and upon reexamination of matter by supervising inspector, third district, decisions reversed and licenses restored to above parties.

March 20.—About 7.30 p. m., as steamer *Fearless* was going up St. Johns River, Florida, between Palatka and Norwalk, Fla., one Digby, a passenger, fell from upper deck of steamer into river and was drowned. Cause of accident

supposed to be from intoxication. All efforts made to save him were without avail.

June 5.—Suspended licenses of Erastus O. Causey, second-class pilot; Edwin S. Bennett, assistant engineer, and Edward Usina, special engineer, for 10 days each for the navigation of steamer *Mary Howard* without properly licensed officers in charge.

June 5.—At about 8 p. m., while steamer *Louise* was on her way up the St. Johns River, Florida, the watchman, J. G. Kirkpatrick, fell overboard from unknown cause. All efforts made to save him at the time of accident were without avail, but body was recovered several days later.

June 19.—Suspended license of Don A. Pelling, engineer, for 15 days for absenting himself from engine of steamer *Fearless* while on duty.

June 24.—At midnight, while three men were crossing the St. Johns River, Florida, at Jacksonville, Fla., in a rowboat, having no light or oarlocks aboard of boat, steamer *Martha Helen* coming up the river crashed into them, drowning one of the occupants of the rowboat named Harry Haight. Search was made for the body and same was afterwards recovered.

September 15.—At 2.45 p. m., while steamer *Agnes K.* was proceeding down St. Johns River, Florida, from Jacksonville, Fla., a colored man, passenger, name unknown, accidentally and from unknown cause fell into river and sunk at once. All efforts made to rescue him were without avail.

September 28.—While steamer *Bessie* was running on St. Johns River, Florida, between Fairview and Orange Mills, Fla., William Jennings, a passenger, staggered toward railing and fell overboard. The body did not rise after sinking. Efforts made to recover same.

October 10.—While steamer *Red Wing* was towing a lighter from Fishing Creek to Jacksonville, Fla., at the mouth of Fishing Creek, R. Donergaul, deck hand, fell overboard from lighter and was drowned. Every effort was made to save him, but he did not rise to surface after going down.

November 10.—Steamer *Winnie D.* was reported to collector of customs, Jacksonville, Fla., for being navigated without having been inspected, being in violation of section 4426, Revised Statutes.

November 30.—Steam tug *Frank* sunk while lying at dock at New Berlin, Fla. Cause unknown. No lives lost. Steamer promptly raised. Damage slight.

December 7.—About 9.30 p. m. steamer *Vixen* caught fire from unknown cause while lying at dock at Jacksonville, Fla. Damage slight.

December 10.—About 6.45 p. m. fire was discovered aboard of steamer *Edith* while lying at Cummer's wharf, Jacksonville, Fla. Cause of fire unknown. Estimated amount of damage, $2,500. Fully insured.

JOHN W. OAST,
Supervising Inspector, Third District.

The SUPERVISING INSPECTOR-GENERAL,
Washington, D. C.

FOURTH DISTRICT.

STEAMBOAT-INSPECTION SERVICE,
OFFICE OF U. S. SUPERVISING INSPECTOR,
St. Louis, Mo., January 5, 1904.

SIR: In compliance with the provisions of section 4410, Revised Statutes, I submit the following report of the general business transacted in the fourth supervising district during the year ended December 31, 1903:

Vessels inspected, added to service, etc.

Local district.	Inspected.		New vessels added to service.		Gone out of service.		Gone into other districts.	
	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.
St. Louis, Mo	151	30,076	15	517	19	2,779	13	4,155
Total in previous year	160	34,164	10	3,013	10	1,640	16	3,379
Decrease	9	4,088		2,496			3	
Increase			5		9	1,139		776

Boilers inspected.

Local district.	Number inspected.	Number defective.	Number condemned.	Defects in boilers and attachments.				
				Sheets.	Steam and mud drums.	Steam pipes.	Flues and tubes.	Boiler heads.
St. Louis, Mo.	296	18	1	15		1		3
Total previous year	313	45		24	4	3	78	2
Decrease	20	27		9	4	2	78	
Increase			1					1

Officers licensed.

Local district.	Steam and other motor vessels.							Sail vessels and barges.		Total.
	Masters.	Masters and pilots.	Mates.	Mates and pilots.	Pilots.	Joint pilots and engineers.	Engineers.	Masters.	Chief mates.	
St. Louis, Mo.	27	18	75		54	4	109			287
Total in previous year	47	202	22		189	8	434			902
Decrease	20	184			135	4	325			615
Increase			53							

Violations of steamboat laws.

Local district.	Investigations.					Appeals.			
	Cases investigated.	Dismissed	Licenses suspended.	Licenses revoked.	Cases reported to district attorney, and to chief officers of customs.	Number of appeals.	Decisions revoked.	Decisions modified.	Decisions sustained.
St. Louis, Mo.	7		1	18		18			2
Total previous year.	4	2	1		1				
Decrease		2			1				
Increase	3			18		18			2

Expenditures during the year ended December 31, 1903.

District.	Salaries.	Traveling expenses.	Incidentals.	Total.
Supervising inspector fourth district	$3,000.00	$463.09	$105.00	$3,568.09
St. Louis, Mo.:				
Local inspectors	3,600.00	1,280.50	64.95	4,945.45
Clerk to local inspectors	1,041.29			1,041.29
Aggregate	7,641.29	1,743.59	169.95	9,554.83

In addition to the regular annual inspection the following boilers were inspected on United States Government steamers and in United States Government buildings during the year ended December 31, 1903, by the boiler inpector in the St. Louis inspection district:

Name of steamer or building.	Port where inspected.	Date inspected.	Number of boilers inspected.
STEAMERS.			
Lily (light-house tender)	St. Louis, Mo	May 5	8
Stella	Keokuk, Iowa	Oct. 19	1
Vixen	Dubuque, Iowa	Oct. 4	1
Col. A. Mackenzie (snag boat)	St. Louis, Mo	Oct. 1	8
Lucia (towboat)	Keokuk, Iowa	May 2	1
Phoenix (dredge)	do	do	1
Helca (dredge)	Dubuque, Iowa	May 15	1
Wright (snag boat)	St. Louis, Mo	May 19	4
BUILDING.			
Custom-house	Keokuk, Iowa	June 30	1

CASUALTIES.

LOCAL DISTRICT OF ST. LOUIS, MO.

1903.

January 22.—While steamer *Fawn* was lying in winter quarters, severe cold weather caused seams to leak, ice forming in hold so thick that leaks could not be reached. Watchman being alone could not get assistance at night, at which time the accident occurred. Steamer sunk, total loss, value unknown.

March 4.—Steamer *Commodore*, lying in winter quarters, was sunk by the breaking up of the ice. Owners notified this board that the steamer would be raised and again placed in service. Amount of damage unknown.

March 13.—A man about 60 years of age, name unknown, jumped from the ferryboat *Andrew Christy*, attempting suicide. Lifeboat was promptly lowered and the man rescued and turned over to East St. Louis, Ill., police authorities.

March 24.—Gustav Luethy, engineer of the steamer *Export*, was discovered in the water, cause unknown, no one seeing the accident, it being presumed he fell off the fantail while oiling the bearings of the wheel. Steamer being near the shore was run to the bank. Lifeboat was lowered and search made, but the man had disappeared, no one knowing how long he had been in the water before being discovered.

April 17.—The steamer *Jacob Richtman* while descending the Mississippi River, coming through the bridge at Alton, Ill., with two loaded barges and log raft in tow, on account of strong stern wind and current, became unmanageable, struck the bridge span, and damaged vessel to the amount of $25. No lives lost.

April 23.—Colored woman, Mrs. Ada Pares, of St. Louis Mo., attempted to jump from wharf boat to steamer *Andrew Christy* after steamer had left her dock, fell into the river and was drowned. The lifeboat was lowered immediately, but strong current washed her to shore. Body was taken to undertaking establishment in East St. Louis, Ill.

April 27.—When the steamer *Chester* was backing away from landing at Red Rock, Mo., during the excitement of deck passengers looking out on shore, the crowd pushed a boy, Willie Theeson, overboard, bull rail gate having been taken out by one of the deck passengers. Every effort was made to save the boy, but failed.

May 31.—The steamer *Mike Bauer* broke loose from mooring, caused by rapid rise in river, and was driven by strong current against bridge piers in the Kaw River at Kansas City, Kans., and sunk. Reported total loss; amount unknown. No lives lost.

June 2.—A colored man by name of Charles Price deliberately jumped overboard from the steamer *W. H. Grapevine*, near Harris Island, Missouri, and refused all efforts to rescue him.

June 3.—The steamer *Flying Eagle* and barge *Little Gate*, while passing through the bridge at Hannibal, Mo., steamer's wheel and stern struck the protection of the upper end of draw, causing vessel to become unmanageable, swinging around to starboard against the bridge, the high water and cross current causing the accident. One of the crew and three passengers supposed to be missing. Names unknown.

June 12.—The steamer *Ariel*, while hauled out on bank for repairs at Lexington, Mo., owing to sudden rise of the river from flood, was overwhelmed and sunk. Total loss, about $2,500.

July 27.—A colored man, John Kirk, roustabout on the steamer *Kennedy*, while trying to get out of the way of a wild cow, jumped overboard at Haasey's Landing, Mo., was sucked under the boat and never rose to the surface, it therefore being impossible to rescue him.

September 7.—The steamer *J. P. Gage*, while making a landing at St. Charles, Mo., struck some hidden obstruction and sunk. All efforts (same being assisted by the steamer *Kennedy*) to save the vessel failed. Supposed to be total loss, $5,000. No lives lost.

September 25.—While steamer *Samuel B. Wiggins* was in mid-river between St. Louis, Mo., and East St. Louis, Ill., a man deliberately jumped overboard and was drowned, the body never coming to the surface. No effort to rescue could be made.

October 22.—While steamer *Chester* was descending the Mississippi River near Bushberg, Mo., a man, Nichola Lirdberg, deliberately jumped overboard. Presumed to be a case of suicide, as he was heard to remark "Good-bye, this is my last night." Steamer was stopped and search made, but the body never came to the surface.

October 30.—Steamer *City of St. Louis*, while lying at St. Louis, Mo., was destroyed by fire originating under boiler deck aft of port wheelhouse. Cause unknown. Total loss; $35,000. James Parnell, bartender, missing and supposed to have been lost.

October 29.—While the steamer *Lotus Sims* was lying at St. Louis, Mo., fire was discovered about 6 a. m., originating on stern of vessel. Cause unknown. Was totally destroyed. Amount of loss, $25,000.

October 26.—Steamer *Pinta*, while lying at the bank, about 6 miles north of Louisiana, Mo., was damaged by fire, the cabin being burned off. Damage, about $250. Origin of fire unknown. No lives lost.

December 9.—While passing through a narrow channel during a snowstorm, at Little Rock Island, 2 miles above Thebes, Ill., on the Mississippi River, the steamer *Fordyce* struck rocks and was sunk. Supposed to be total loss; amount unknown. No lives lost.

December 30.—The steamer *Peerless*, at St. Charles, Mo., was struck by an ice gorge, breaking side of hull under water line, and sunk in about six feet of water. Steamer to be raised. Damage unknown. No lives lost

VIOLATIONS AND INVESTIGATIONS.

1903.

May 2.—Charges were preferred by William K. Kavanaugh, president and general manager of the Wiggins Ferry Company, of St. Louis, Mo., against 17 engineers, as follows: Horace G. Armstrong, Issac O. Barnes, Edgar S. Carver, Joseph B. Hill, George M. Jenkins, Frank A. Kremer, Jerry Lorie, Henry J. Leyhe, William J. Lepper, Charles Maheu, Charles L. Monaghan, Thomas Marlin, Daniel Regan, John W. Smith, Thomas A. Pierson, Barney Wayney, and William Lynn, for violating section 4449, Revised Statutes, in unreasonably refusing to serve, thereby resulting in a hinderance to commerce. Investigation was held May 5, and all licenses were revoked. Seventeen appeals were taken from this decision, all of which were decided adversely to the appellants, the decision being sustained.

May 23.—Charges were preferred against Engineers Henry Ragel and Otto H. Busche for violation of section 4438, Revised Statutes, in navigating the steamers *Napoleon Mullikin* and *H. C. Haarstick*, of the Wiggins Ferry Company, without the proper license. Investigation was held May 27, and charges not sustained.

May 25.—Charges were filed against Vivian A. Mattingly, chief engineer of the steamer *Napoleon Mullikin*, of the Wiggins Ferry Company, for violation of

section 4446, Revised Statutes, in not having his license properly displayed under glass on the steamer mentioned. Investigation was held June 13, and Engineer Mattingly was exonerated from any willful violation of section above mentioned. An appeal was taken from this decision, but withdrawn before any action was taken by the supervising inspector.

It having come to the knowledge of the local inspectors that George B. Reed, chief engineer of the steamer *Lotus Sims*, while in the harbor of St. Louis, Mo., had violated section 4441, Revised Statutes, by intemperance while on duty, the case was investigated September 2, and, upon the accused admitting the charge to be true, his license was suspended for 30 days.

It having come to the knowledge of the local inspectors that the safety valve on the steamer *Susie Hazard* had been tampered with by being obstructed, the license of the chief engineer, Robert Critchfield, acting as temporary engineer in charge, was revoked for violation of section 4441, Revised Statutes, in willfully neglecting to report the same to the inspectors upon the fact coming to his notice upon the occasion of his taking charge of the steamer. Investigation held September 2. A locked-up safety valve has since been placed on this steamer, as provided by paragraph 14, Rule IX, rules and regulations of the board of supervising inspectors.

On October 26 one Huntington Owen, holding chief engineer license, presented same for renewal. The renewal was refused in accordance with sections 4439 and 4450, Revised Statutes, it being the personal knowledge of the local inspectors that Huntington Owen was continually and willfully violating sections of the statutes above mentioned, on account of being an habitual drunkard, having become a man of very degraded character.

R. J. WHITLEDGE,
Supervising Inspector, Fourth District.

The SUPERVISING INSPECTOR-GENERAL,
Washington, D. C.

FIFTH DISTRICT.

STEAMBOAT-INSPECTION SERVICE,
OFFICE OF U. S. SUPERVISING INSPECTOR,
Dubuque, Iowa, December 31, 1903.

SIR: In compliance with the provisions of section 4410, Revised Statutes, I submit the following report of the general business transacted in the fifth supervising district during the year ended December 31, 1903:

Vessels inspected, added to service, etc.

Local district.	Inspected.		New vessels added to service.		Gone out of service.		Gone into other districts.	
	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.
Dubuque, Iowa:								
By supervising inspector	11	736	3	192				
By local board	110	9,736	11	1,801	9	1,288	19	1,780
Duluth, Minn.:								
By supervising inspector	18	531	1	10				
By local board	202	180,883	9	19,337	2	1,770	64	144,549
Total	336	191,866	24	20,840	11	3,058	83	146,329
Total in previous year	355	205,198	17	16,656	8	3,166	48	84,052
Decrease	19	13,332				108		
Increase			7	4,184	3		35	62,277

Boilers inspected.

Local district.	Number inspected.	Number defective.	Number condemned.	Defects in boilers and attachments.						
				Sheets.	Steam and mud drums.	Stay bolts.	Steam pipes.	Flues and tubes.	Braces.	Boiler heads.
Dubuque, Iowa:										
By supervising inspector	7	1		1			1			
By local board	140	16	1	7	5	5	2	1		1
Duluth, Minn.:										
By supervising inspector	9									
By local board	275	23		2	4	135	2	7	28	
Total	431	40	1	10	9	140	5	8	28	1
Total previous year	474	42	6	14	3	211		4		2
Decrease	43	2	5	4		71				1
Increase					6		5	4	28	

Officers licensed.

Local district.	Steam and other motor vessels.							Sail vessels and barges.		Total.
	Masters.	Masters and pilots.	Mates.	Mates and pilots.	Pilots.	Joint pilots and engineers.	Engineers.	Masters.	Chief mates.	
Dubuque, Iowa	7	25	8		88	3	94			175
Duluth, Minn		27			52	6	47			132
Total	7	52	8		90	9	141			307
Total previous year	10	320	7		231	27	524			1,119
Decrease	3	268			141	18	383			812
Increase			1							

Violations of the steamboat laws.

Local district.	Investigations.					Appeals.			
	Cases investigated.	Dismissed.	Licenses suspended.	Licenses revoked.	Cases reported to district attorney and to chief officers of customs.	Number of appeals.	Decisions revoked.	Decisions modified.	Decisions sustained.
Dubuque, Iowa					4				
Duluth, Minn	2	1	2		7	1	1		
Total	2	1	2		11	1	1		
Total previous year	11	4	8	1	8	2			2
Decrease	9	3	6	1		1			2
Increase					3		1		

Expenditures during the year ended December 31, 1903.

District.	Salaries.	Traveling expenses.	Incidentals.	Total.
Supervising inspector, fifth district	$3,000.00	$835.65	$0.77	$3,836.42
Dubuque, Iowa	4,000.00	749.94	2.48	4,752.40
Duluth, Minn	5,200.00	792.90	6.30	5,999.20
Aggregate	12,200.00	2,378.49	9.53	14,588.02

Samples of steel and iron tested for material to be used in marine boilers, in fifth district, for year ended December 31, 1903.

Supervising district.	Whole number tested.	Samples of steel.	Samples of iron.	Steel failed in tensile strength.	Iron failed in tensile strength.	Steel failed in reduction of area.	Iron failed in reduction of area.	Failed in elongation.
Fifth	20	20	.....	4	.....	2	.....	.....

MISCELLANEOUS.

In addition to the regular annual inspections, the following boilers were inspected on United States Government steamers and in United States Government building during the year ended December 31, 1903.

Local inspection district.	Name of steamer or building.	Port where inspected.	Date inspected.	Number of boilers inspected.
	STEAMERS.			
Dubuque, Iowa	Fury	Fountain City, Wis	Apr. 23	2
Do	Emily	do	do	1
Do	Vulcan (dredge)	do	do	1
Do	Oleander[a]	Dubuque, Iowa	Aug. 11	2
Do	Dredge No. 208	do	May 15	2
Do	Ruth	Rock Island Rapids, Ill.	July 29	2
Do	Mac	do	do	1
Do	Drill boat No. 6	do	do	1
Do	Drill boat No. 108	do	do	1
Do	Ajax (dredge)	do	do	1
Do	Geyser (dredge)	Illinois and Mississippi River Canal.	do	1
Do	Alert	La Moille, Minn	Aug. 24	1
Do	Elsie	do	do	1
Do	Vixen	Guttenberg, Iowa	Oct. 4	2
Do	Louise	do	do	1
	BUILDING.			
Duluth, Minn	Station, Commission of Fish and Fisheries.	Duluth, Minn	Dec. 2,4	2

[a] Hull also inspected.

CASUALTIES, VIOLATIONS OF LAW, AND INVESTIGATIONS.

LOCAL DISTRICT OF DUBUQUE, IOWA.

1903.

April 28.—While steamer *Musser* was taking William Tippetts's wood barge in tow at Tippetts Landing, near Victory, Wis., Ira Shrake, one of the crew of said steamer, and said Tippetts got into an altercation about getting the barge in tow, during which Tippetts struck Shrake on the head with a stick of cord wood, from which he died some days later, Tippetts being held for the crime.

July 21.—Gasoline ferryboat *Lillian*, John C. Gear, master, was navigated from Galena, Ill., to Dubuque, Iowa, outside the route specified in her certificate of inspection, with an excursion party, in violation of the provisions of section 4426, Revised Statutes. Case reported to the surveyor of customs, Galena, Ill.

August 31.—John E. Liddle made report alleging that the gasoline ferryboat *Frentress* was navigated on August 27, 28, 29, and 30, 1903, without the required number of crew on board, in violation of the provisions of section 4463, Revised Statutes, and on August 27, after sunset, without the regulation signal lights displayed, contrary to the requirements of Rule X of the pilot rules for western rivers. Case reported to surveyor of customs at Dubuque, Iowa.

September 27.—While steamer *Jacob Richtman* was making a landing at Nauvoo, Ill., and before steamer was properly landed, the passengers crowded upon the stage, against the protest of the master and others, causing it to fall, together with the mainmast, which struck a boy named Harry Bucker on the head, killing him instantly. John Scmidt and Mary Kraft were also slightly injured about the head. At an inquest held by the coroner the officers of the steamer were exonerated from all blame in the casualty.

September 28.—The gasoline boat *Uella May*, Charles T. Oldham, master, was reported to the surveyor of customs, Sioux City, Iowa, for navigating, from May 10, 1902, to September 9, 1903, without inspection, in violation of section 4417, Revised Statutes.

October 10.—Steamer *Waunetta*, A. M. Short, master, was reported to the surveyor of customs, Dubuque, Iowa, for navigating from October 1 to October 7, 1903, inclusive, after the expiration of certificate of inspection, in violation of sections 4417 and 4418, Revised Statutes.

November 19.—While en route from Warsaw, Ill., to Burlington, Iowa, in tow of steamer *May Hill*, steamer *May Flower* sunk. No lives lost or persons injured. Accident supposed to have been caused by the thin ice cutting oakum out of seams. Amount of damage estimated at $100.

CASUALTIES, VIOLATIONS OF LAW, AND INVESTIGATIONS.

LOCAL DISTRICT OF DULUTH, MINN.

1903.

April 29.—Steamer *Belle P. Cross*, while bound for Duluth, laden with cedar ties and poles, got off her course during a snowstorm and stranded on Gooseberry Point, north shore of Lake Superior. The vessel, which was a total loss, was valued at $12,000.

May 18.—Steamer *Maunaloa* collided with and sunk tug *Edward Gillen* at about 7 a. m. just outside Superior Entry. H. A. Sandercock, steward on the tug, was drowned. It was very foggy at the time, with a light northeast wind. Case investigated May 18 and 19 and August 2 and 3, 1903, and as a result of same it was found that the masters of both steamers had failed to comply with rule 15 of the pilot rules for the Great Lakes. The licenses of Charles H. Cummings and William Hutchins were suspended for 30 days, commencing August 15, 1903. Captain Cummings appealed to the supervising inspector of the district, who investigated his case and reversed the decision of the local board. The tug was subsequently raised and towed to Superior, where she will be rebuilt. Damage to tug, about $6,000.

June 15.—Bernard Nelson, a member of the crew on tug *Eliza*, accidentally fell overboard in the vicinity of Bayfield, Wis., and was drowned.

June 17.—Barge *Twin Cities* was reported to the collector of customs at St. Paul, Minn., for violation of section 4417, Revised Statutes of the United States.

June 19.—While tug *Excelsior* was entering a slip at port of Duluth a sunken obstruction was struck, which resulted in the tipping over of a lumber pile onto the tug, causing damage to the amount of $400.

June 26.—Reported steamer *Grand Forks* to the chief officer of customs at Pembina, N. Dak., for alleged violation of section 4438, United States Revised Statutes.

June 29.—Reported steamer *Winnifred Hayes* to the chief officer of customs at St. Paul, Minn., for violation of section 4463, United States Revised Statutes.

July 4.—Steamer *Bon Ami*, during a fog, stranded on the south shore of Lake Superior. She was later brought to Duluth and repaired at a cost of $1,300.

July 23.—Patrick Delaney, a fireman on tug *J. B. Merrill*, jumped overboard and was drowned. He was putting in a fire when two staybolts in the boiler gave way, which started the boiler to leak. He jumped overboard, it is believed, during a moment of excitement.

July 25.—Steamer *Itasca* was reported to the chief officer of customs at St. Paul, Minn., for violation of section 4454, United States Revised Statutes.

July 25.—While steamer *V. Swain* was loading ore at Two Harbors, Minn., a pump, which had been kept at work to keep the vessel free from water, caused by a small leak, became disabled and the vessel sunk. The vessel was raised and repaired at a cost of $12,000.

July 25.—A complaint by James W. Ditzel against owner of tug *Bob Teed*, of Ashland, Wis., for navigating said tug without having indorsement of master on vessel's enrollment, was referred to the chief officer of customs at Marquette, Mich.

August 19.—Reported steamer *Mary Mann* to chief officer of customs at Duluth, Minn., for having violated section 4417, United States Revised Statutes.

August 22.—Harry Kading accidentally fell into the hold of steamer *G. A. Flagg*, at Ashland, Wis., and received injuries from which he died.

September 12.—James Ferguson, engineer, was drowned by the sinking of steamer *Park Bluff*, on St. Croix River, opposite Stillwater, Minn.

September 18.—Henry Moyer, a young man 19 years old, was drowned in the river opposite Prescott, Wis. He fell out of a skiff which was alongside steamer *Mars*.

October 3.—While steamer *D. G. Kerr* was lying at anchor in Duluth Harbor, a terrific wind storm came up and carried the vessel against the concrete piers at the canal. Vessel was damaged to the extent of about $20,000.

October 11.—Steamer *Itasca* sunk on Rainy River, caused by the shifting of cargo. Vessel was raised and found not damaged.

October 15.—Steamer *Marquette* foundered in the vicinity of Michigan Island, Lake Superior, caused by the vessel leaking. Steamer was valued at $40,000.

October 22.—Steamer *F. W. Gillett* was damaged by fire to the extent of about $300. Origin of fire unknown.

November 9.—Reported steamer *Winnifred Hayes* to the chief officer of customs at St. Paul, Minn., for alleged violation of section 4438, United States Revised Statutes.

November 11.—While steamer *B. Lyman Smith* was bound down Lake Superior the follower of the high-pressure engine gave out and carried away the cylinder head. Damage estimated at $2,500.

December 8.—William Rainbow, a deck hand, was killed by accidentally falling into the hold of steamer *Sonora* at Duluth.

December 8.—Steamer *C. W. Moore*, bound from Duluth to Grand Marais, Minn., with a cargo of lumber and machinery, stranded on the north shore of Lake Superior about 15 miles from Duluth. The usual course was taken, but on account of the darkness and vapor arising from the water it was impossible to see the shore. The vessel was released and brought to Duluth to undergo repairs, which will amount to about $2,000.

December 10.—A man by the name of John Olson fell overboard from steamer *Henry F. Brower* and was drowned. Upon investigation the casualty was found to be accidental.

JOHN D. SLOANE,
Supervising Inspector, Fifth District.

The SUPERVISING INSPECTOR-GENERAL,
Washington, D. C.

SIXTH DISTRICT.

STEAMBOAT-INSPECTION SERVICE,
OFFICE OF U. S. SUPERVISING INSPECTOR,
Louisville, Ky., December 31, 1903.

SIR: In compliance with the provisions of section 4410, Revised Statutes, I submit the following report of the general business transacted in the Sixth supervising district during the year ended December 31, 1903:

Vessels inspected, added to service, etc.

Local district.	Inspected.		New vessels added to service.		Gone out of service.		Gone into other districts.	
	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.
Louisville, Ky	59	12,315	6	1,337	2	176	6	1,337
Evansville, Ind	87	11,063	4	238	6	328	19	3,154
Nashville, Tenn	75	8,790	6	932	2	331	15	1,624
Memphis, Tenn	86	10,598	3	181	13	905	7	1,585
Total	307	42,764	19	2,688	23	1,740	47	7,700
Total in previous year	313	39,616	27	2,099	18	1,754	51	7,648
Decrease	6		8			14	4	
Increase		3,148		589	5			52

Boilers inspected.

Local district.	Number inspected.	Number defective.	Number condemned.	Defects in boilers and attachments.				
				Sheets.	Steam and mud drums.	Steam pipes.	Flues and tubes.	Boiler heads.
Louisville, Ky	159	36	8	33	9	1	65	10
Evansville, Ind	159	26	4	16	7	6	55	1
Nashville, Tenn	124	26	.....	12	8	.....	48	6
Memphis, Tenn	134	43	6	20	4	.....	306	.....
Total	576	131	18	81	28	7	474	17
Total in previous year	554	178	24	127	86	12	853	17
Decrease	.....	47	11	46	8	5	379	.....
Increase	22	.....	.....	.....	.....	.....	.....	.....

Officers licensed.

Local district.	Steam and other motor vessels.							Sail vessels and barges.		Total.
	Masters.	Masters and pilots.	Mates.	Mates and pilots.	Pilots.	Joint pilots and engineers.	Engineers.	Masters.	Chief mates.	
Louisville, Ky	7	11	16	.....	12	.....	35	.....	.....	81
Evansville, Ind	4	11	19	.....	19	.....	26	.....	.....	79
Nashville, Tenn	5	9	31	.....	28	.....	19	.....	.....	92
Memphis, Tenn	4	11	24	.....	21	.....	23	.....	.....	83
Total	20	42	90	.....	80	.....	103	.....	.....	335
Total in previous year	96	324	12	.....	284	2	589	.....	.....	1,307
Decrease	76	282	.....	.....	204	2	486	.....	.....	972
Increase	.....	.....	78	.....	.....	.....	.....	.....	.....	.....

Violations of the steamboat laws.

Local district.	Investigations.					Appeals.			
	Cases investigated.	Dismissed.	Licenses suspended.	Licenses revoked.	Cases reported to district attorney and to chief officers of customs.	Number of appeals.	Decisions revoked.	Decisions modified.	Decisions sustained.
Louisville, Ky	2	2	4	.....	2	1	.....	.....	1
Evansville, Ind	14	.....	8	2	10	1	.....	.....	1
Nashville, Tenn	3	.....	4	.....	.....	.....	.....	.....	.....
Memphis, Tenn	5	1	.....	.....	5	.....	.....	.....	.....
Total	24	3	11	2	17	2	.....	.....	2
Total previous year	22	3	14	2	6	.....	.....	.....	.....
Decrease	.....	.....	3	.....	.....	.....	.....	.....	.....
Increase	2	.....	.....	.....	11	2	.....	.....	2

Expenditures during the year ended December 31, 1903.

District.	Salaries.	Traveling expenses.	Incidentals.	Total.
Supervising inspector, sixth district	$3,000.00	$515.78	$20.00	$3,535.78
Louisville, Ky	2,400.00	438.80	23.14	2,861.94
Evansville, Ind	2,400.00	1,157.90	7.00	3,564.90
Nashville, Tenn	2,344.59	1,017.60	6.74	3,368.93
Memphis, Tenn	2,400.00	1,139.10	11.50	3,550.60
Aggregate	12,544.59	4,269.18	68.38	16,882.15

Samples of steel and iron tested for material to be used in marine boilers in the sixth district, for the year ended December 31, 1903.

Local district.	Whole number tested.	Samples of steel.	Samples of iron.	Steel failed in tensile strength.	Iron failed in tensile strength.	Steel failed in reduction of area.	Iron failed in reduction of area.	Failed in elongation.
Louisville, Ky	116	116	.....	4	.....	4	.....	4

MISCELLANEOUS REPORT.

In addition to the regular annual inspections, the following boilers were inspected on United States Government steamers and in United States Government buildings during the year ended December 31, 1903:

Local inspection district.	Name of steamer or building.	Port where inspected.	Date inspected.	Number of boilers inspected.
	STEAMERS.			
Louisville, Ky	Canal dredge boat No. 25	Louisville, Ky	Jan. 17	1
Do	Canal dredge boat No. 26	do	Feb. 4	1
Do	Canal dredge boat No. 27	do	do	1
Do	John	Jeffersonville, Ind	Sept. 11	1
Do	Henry	do	do	1
Do	Wave Rock	Louisville, Ky	Nov. 2	1
	BUILDINGS.			
Louisville, Ky	Marine hospital	Louisville, Ky	July 30	2
Do	Post-office	do	Sept. 17	8
Do	Canal machine shop	do	Nov. 2	1
Do	Canal carpenter shop	do	do	1
Do	Canal lock wall	do	do	2
	STEAMERS.			
Memphis, Tenn	John N. Macomb (snag boat)	Memphis, Tenn	Jan. 24	5
Do	Quapaw (snag boat)	Little Rock, Ark	Apr. 3	3
Do	C. B. Rees (snag boat)	Augusta, Ark	Oct. 3	3
Do	Chisca (towing)	Memphis, Tenn	Oct. 4	4
Do	Titan (towing)	do	Oct. 11	3
Nashville, Tenn	Wm. Preston Dixon	Bowling Green, Ky	Feb. 3	3

CASUALTIES, VIOLATIONS OF LAW, AND INVESTIGATIONS.

LOCAL DISTRICT OF LOUISVILLE, KY.

1903.

January 14.—J. J. Stewart, owner, and James W. R. King, acting pilot, were reported to the United States district attorney for having navigated steamer *Blue Wing*, October 27, 1902, in violation of section 4438 of the Revised Statutes.

February 12.—Charges of intemperance preferred against John George, chief engineer, were sustained. His license was suspended 180 days for violation of section 4441 of the Revised Statutes.

February 25.—Charges of intemperance preferred against John E. Pyle, chief engineer, were dismissed for reason of the death of the accused.

February 25.—While steamer *L. H. Buhrman* was en route down the Ohio River, and when near Derby, Ind., fire was discovered in her engine room. Before an effort could be made to extinguish the rapidly spreading flames, the officers and crew were compelled to take to the barges in tow and abandon the burning vessel, which was totally destroyed. Loss of vessel, $20,000. No lives lost.

March 11.—While ascending the falls of the Ohio River near this harbor the steamer *W. H. Flint* struck a submerged buoy, causing her to sink. No lives lost. Steamer was subsequently raised and repaired at a cost of $400.

April 27.—Charges of misbehavior preferred by Jefferson Thomas, February 23, 1903, against S. J. Preston, master and pilot, were not investigated. The

informer having requested the charge to be withdrawn, and reliable information having been received from persons to be summoned as witnesses, and the local inspectors being of the opinion that no violation was committed, the case was dismissed.

May 1.—The steamer *Fulton* and barges came in collision with the steamer *Sunshine* in this harbor, resulting in damage to the *Fulton* and barges of $2,180. Damage to the *Sunshine*, $500.

May 13.—William Hutcherson, managing owner of the steamer *Champion*, was reported to the United States district attorney for having navigated said steamer in violation of section 4438 of the Revised Statutes.

May 22.—Investigation of cause of collision that occurred in this harbor May 1, 1903, between steamers *Sunshine* and *Fulton* resulted in the suspension of license of pilots on both steamers, Edward J. Houser, pilot of the *Fulton*, and Bartlett Nixon, pilot of the *Sunshine*. Capt. Bartlett Nixon of the steamer *Sunshine*, appealed to the supervising inspector, sixth district, who sustained the decision of the local inspectors.

November 17.—The license of William H. Weber, chief engineer, was suspended 60 days for negligence. Violation of section 4441 of the Revised Statutes.

December 12.—The towing steamer *Al Martin*, while en route down the Kentucky River, and when near Sand Ripple, struck a hidden obstruction, causing her to sink. The accident proved a total loss of vessel, valued at $10,000. No lives lost.

LOCAL DISTRICT OF EVANSVILLE, IND.

1903.

January 14.—Charges of intemperance preferred against James L. Ellis were investigated and sustained. His license as chief engineer was suspended for 90 days for violation of section 4441, Revised Statutes of the United States.

February 18.—C. D. Miner, master of the steamer *Sunbeam*, was charged with navigating the above-named steamer without a licensed engineer in violation of sections 4438 and 4463, Revised Statutes of the United States. The accused plead guilty, and his license as second-class pilot was suspended for 30 days, and the case was reported to the United States district attorney.

February 18.—Morley Behymer was charged with acting as engineer on the steamer *Sunbeam* without a license. The accused plead guilty, and the case was reported to the United States district attorney.

March 4.—While the steamer *Charley Curlin* was en route from Calhoun to Livermore, Ky., on Green River, in making a landing, she struck a hidden obstruction and sunk. No lives lost. Boat was raised and repaired at a cost estimated at $2,000.

March 20.—While the steamer *John A. Wood* and tow were lying at Schoolhouse Landing, Ind., Ben McCullom, one of the crew, fell overboard and was drowned.

March 28.—Charles Hammock, one of the crew of the steamer *City of Memphis*, fell overboard and was drowned while the boat was making a landing at Cairo, Ill.

April 8.—William Fox, one of the crew of the steamer *D. A. Nisbet*, fell overboard from a new hull lying alongside and was drowned.

June 26.—While the transfer steamer *Henry Marquand* was lying at her dock at Cairo, Ill., her main steam pipe gave way in a defective place. No one hurt. Damage estimated at $150.

July 21.—The steamer *Joe Fowler* was en route from Evansville, Ind., to Paducah, Ky., and when alongside of Wabash Island broke her water-wheel shaft. No other damage done. Cost of repairs estimated at $350.

July 22.—John H. Thacker, chief engineer, violated section 4441, Revised Statutes of the United States, by his intemperate habits to such an extent that renewal of his license was refused on August 14.

August 15.—B. I. Stockdale, managing owner of the gasoline boat *Tecumseh*, plead guilty to having carried excursions on the above-named boat without a permit, at various times during the year ended June 30, 1903, in violation of sections 4465 and 4466, Revised Statutes of the United States. The case was reported to the United States district attorney.

August 15.—B. I. Stockdale plead guilty to having navigated the gasoline boat

Tecumseh without having a licensed engineer on board, at various times during the fiscal year ended June 30, 1903, in violation of sections 4438, 4441, and 4463, Revised Statutes of the United States. The case was reported to the United States district attorney.

August 15.—B. I. Stockdale plead guilty to the charge of having acted as engineer on the gasoline boat *Tecumseh* at various times during the fiscal year ended June 30, 1903, in violation of section 4438, Revised Statutes of the United States. The case was reported to the United States district attorney.

August 15.—Fred L. Kennedy, a first-class pilot, plead guilty to having acted as pilot outside the territory prescribed on his license at various times during the months of July and August, in violation of section 4442, Revised Statutes of the United States. His license as first-class pilot was suspended for 30 days, and the case reported to the United States district attorney.

September 4.—Charles E. Shambaugh acted as engineer without license on an unnamed steamboat on the Wabash River at various times between June 25 and July 7, in violation of sections 4441 and 4438, Revised Statutes of the United States. Case was investigated, guilt substantiated, and case reported to the United States district attorney.

September 4.—H. L. West acted as pilot without license on an unnamed steamboat on the Wabash River at various times between June 25 and July 7, in violation of sections 4442 and 4438, Revised Statutes of the United States. Case investigated, guilt substantiated, and case reported to the United States district attorney.

September 4.—Wallace Marshall, of Lafayette, Ind., violated sections 4399 and 4400, Revised Statutes of the United States, in that he was managing owner in an unnamed steamboat running without first being inspected and without licensed officers on board, at various times between June 25 and July 7. Matter was investigated and case reported to the United States district attorney.

September 4.—Daniel McWolverton plead guilty to the charge of habitual intemperance, in violation of section 4441, Revised Statutes of the United States, and his license as assistant engineer was revoked.

September 29.—Joseph Woodward was reported for having acted as pilot of the steamer *Cora Belle* without a license, in violation of section 4438, Revised Statutes of the United States. On receipt of evidence sufficient to warrant his guilt, the case was reported to the United States district attorney.

October 27.—John R. Sheppeard, assistant engineer, plead guilty to the charge of negligence at various times since October, 1902, in violation of section 4441, Revised Statutes of the United States, and his license was revoked.

November 27.—While the steamer *Monie Bauer* was en route down the Ohio River, at a point near Bay City, Ill., a top flue collapsed, scalding Samuel Beard, one of the crew, to death.

LOCAL DISTRICT OF NASHVILLE, TENN.

1903.

February 20.—Steamer *City of Clifton* was totally destroyed by fire while lying at the bank at Clifton, Tenn., on Tennessee River. The fire started near the forward main stairway from cause unknown. Steamer valued at $30,000. No loss of life.

March 3.—Steamers *Henrietta* and *J. B. Richardson* collided near Clarksville, Tenn., on Cumberland River, resulting in damage to the former steamer $500. No loss of life. Investigated March 20, suspending the license of A. J. Cowlishaw, pilot of steamer *Henrietta*, for 20 days, for violation of rules 2 and 9 of the rules for the government of pilots. The license of Lafayette Spillers, master and pilot of the *J. B. Richardson*, was suspended 20 days for violating rule 2 of the rules for the government of pilots.

April 25.—Wesley Roberts, colored deck hand on the steamer *Sam A. Conner*, fell overboard at Ashleys Landing, on Tennessee River, and was drowned before assistance could reach him.

May 24.—Mrs. Mary Massey, passenger on steamer *Decatur No. 1*, fell overboard when near Decatur, Ala., and drowned before assistance could reach her.

June 24.—Steamer *J. T. Reeder* broke her water-wheel shaft when near Florence, Ala. Damage to property estimated at $500.

July 28.—Charges were preferred against George W. Smith, first-class pilot, for violation of section 9, Rule V, of the rules and regulations. The accused

plead guilty, and his license was suspended for 10 days for failing to exclude passengers from the pilot house on steamer *Tennessee*.

September 22.—Charges were preferred against Thomas B. Latham, chief engineer, for violation of section 4441, Revised Statutes. The accused plead guilty, and his license was suspended 60 days for intemperance.

LOCAL DISTRICT OF MEMPHIS, TENN.

1903.

January 8.—While en route from Memphis, Tenn., to Pine Bluff, Ark., the steamer *Lucille Nowland* struck a hidden obstruction in the Arkansas River and sunk. Damage to vessel and cargo, $6,700. No lives lost.

February 6.—John Hawkins, colored deck hand on steamer *Peters Lee*, fell overboard while said steamer was en route from Cairo, Ill., to Memphis, Tenn., and was drowned.

March 9.—Steamer *Delta*, while en route from Memphis, Tenn., to Vicksburg, Miss., when near Mayersville, Miss., struck a snag and sunk. No lives lost. Steamer was subsequently raised and repaired. Damage, $10,000.

March 9.—John German, mate of the steamer *Jack Rabbit*, fell overboard and was drowned while steamer was en route from Rosedale, Miss., to Clarendon, Ark.

March 28.—Steamer *Hazel Rice*, en route from Helena to Wittsburg, Ark., struck the railroad bridge at Madison, Ark. Damage to boat, $250. No lives lost.

April 3.—Steamer *James Lee* was charged with navigating without a full complement of officers, in violation of section 4463, Revised Statutes. Case investigated and reported to the United States district attorney and surveyor of customs.

April 3.—Steamer *Robert E. Lee* was charged with navigating without a full complement of officers, in violation of section 4463, Revised Statutes. Case investigated and reported to the United States district attorney and surveyor of customs.

April 3.—Steamer *Georgia Lee* was charged with navigating without a full complement of officers, in violation of section 4463, Revised Statutes. Case investigated and reported to the United States district attorney and surveyor of customs.

April 10.—Steamer *Bayou Meto* violated section 4426, Revised Statutes, in that said steamer was navigated without inspection and licensed officers. Case was reported to United States district attorney and surveyor of customs.

April 28.—Steamer *Maud Kilgore*, from some unknown cause, foundered and sunk at the mouth of La Anguille River. Damage $1,000. No lives lost.

May 30.—Josie Jackson, a passenger on steamer *Conveyor*, was supposed to have been thrown overboard by another passenger and drowned while steamer was en route from Cairo, Ill., to Hickman, Ky.

May 30.—Henry Kennedy, passenger, fell overboard off the steamer *City of Idaho* near Augusta, Ark., and was drowned.

May 30.—Steamer *Jack Rabbit*, en route from Rosedale, Miss., to Clarendon, Ark., struck a snag near the head of Sibleys Island, on White River, and sunk. Damage to boat and cargo, $2,000. No lives lost.

June 25.—Steamer *Vicksburg*, while moored to the bank near this harbor, was caught on a submerged piling by a rapidly falling river and sunk. No lives lost. Damage $12,000.

July 8.—Steamer *Lucille Nowland*, en route from Memphis, Tenn., to Pine Bluff, Ark., struck a hidden obstruction near Flites Landing, on the Arkansas River, and sunk. Damage to vessel and cargo, $13,000. Tom Mount, deck hand, was drowned.

July 16.—John McCullem, deck hand on the steamer *Joseph B. Williams*, fell overboard from one of the barges in tow, and was drowned near Helena, Ark.

August 12.—W. F. Starnes, master and owner of steamer *Bernice*, was charged with violation of section 4438 of the Revised Statutes of the United States in navigating said steamer without a licensed pilot. Case investigated and reported to the United States district attorney and surveyor of customs.

September 19.—Thomas Bibb, a colored deck hand on steamer *Kate Adams*, engaged in an altercation with another deck hand and was killed while steamer was coming into port.

October 15.—Alonzo Reed, chief engineer, was charged with obstructing the

safety valves on steamer *Avalon*, in violation of section 4437 of the Revised Statutes of the United States. Case investigated, and for reason of charges not being sustained the accused was dismissed.

E. L. DORSEY,
Supervising Inspector, Sixth District.

The SUPERVISING INSPECTOR-GENERAL,
Washington, D. C.

SEVENTH DISTRICT.

STEAMBOAT-INSPECTION SERVICE,
OFFICE OF U. S. SUPERVISING INSPECTOR,
Cincinnati, Ohio, December 31, 1903.

SIR: In compliance with the provisions of section 4410, Revised Statutes, I submit the following report of the general business transacted in the seventh supervising district during the year ended December 31, 1903:

Vessels inspected, added to service, etc.

Local district.	Inspected.		New vessels added to service.		Gone out of service.		Gone into other districts.	
	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.
Cincinnati, Ohio	57	15,710	2	242	------	------	17	4,726
Gallipolis, Ohio	79	8,500	6	311	5	393	14	2,379
Wheeling, W. Va	38	4,620	7	900	3	248	8	502
Pittsburg, Pa	142	24,139	10	1,346	7	1,238	------	------
Total	316	53,969	25	2,799	15	1,879	39	7,607
Total in previous year	328	54,113	24	2,144	26	3,158	30	4,283
Decrease	12	1,144	------	------	11	1,279	------	------
Increase	------	------	1	655	------	------	9	3,324

Boilers inspected.

Local district.	Number inspected.	Number defective.	Number condemned.	Defects in boilers and attachments.				
				Sheets.	Steam and mud drums.	Steam pipes.	Flues and tubes.	Boiler heads.
Cincinnati, Ohio	160	25	------	15	5	2	88	8
Gallipolis, Ohio	158	84	------	15	8	------	55	5
Wheeling, W. Va	102	------	------	7	6	3	39	1
Pittsburg, Pa	421	319	2	194	30	1	12	4
Total	841	428	2	231	49	6	194	18
Total previous year	824	373	13	232	35	3	202	20
Decrease	------	------	11	1	------	------	8	2
Increase	17	55	------	------	14	3	------	------

Officers licensed.

Local district.	Steam and other motor vessels.							Sail vessels and barges.		Total.
	Masters.	Masters and pilots.	Mates.	Mates and pilots.	Pilots.	Joint pilots and engineers.	Engineers.	Masters.	Chief mates.	
Cincinnati, Ohio	15	12	53	------	7	3	27	------	------	117
Gallipolis, Ohio	13	18	52	------	28	------	48	------	------	159
Wheeling, W. Va	2	7	14	------	10	------	12	------	------	45
Pittsburg, Pa	9	41	64	------	17	1	85	------	------	216
Total	38	78	183	------	62	4	172	------	------	537
Total previous year	115	606	53	------	217	12	846	------	------	1,849
Decrease	77	528	------	------	155	8	674	------	------	1,312
Increase	------	------	130	------	------	------	------	------	------	------

Violations of the steamboat laws.

Local district.	Investigations.					Appeals.			
	Cases investigated.	Dismissed.	Licenses suspended.	Licenses revoked.	Cases reported to district attorney and to chief officers of customs.	Number of appeals.	Decisions revoked.	Decisions modified.	Decisions sustained.
Cincinnati, Ohio	15	7	8	.....	1	.....	.....	.....	.....
Gallipolis, Ohio	6	2	4	.....	6	.....	.....	.....	.....
Wheeling, W. Va	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pittsburg, Pa	11	7	4	.....	4	.....	.....	.....	.....
Total	32	16	16	.....	11	.....	.....	.....	.....
Total previous year	19	1	13	4	2	5	.....	1	4
Decrease	.....	.....	.....	4	.....	5	.....	1	4
Increase	13	15	3	.....	9	.....	.....	.....	.....

Expenditures during the year ended December 31, 1903.

District.	Salaries.	Traveling expenses.	Incidentals.	Total.
Supervising inspector, seventh district	$6,000.00	$398.40	$5.60	$6,404.00
Cincinnati, Ohio	2,400.00	88.20	13.92	2,502.12
Gallipolis, Ohio	2,400.00	473.50	42.32	2,915.82
Wheeling, W. Va	2,400.00	376.90	4.75	2,781.65
Pittsburg, Pa	4,328.24	239.65	6.95	4,574.84
Aggregate	14,528.24	1,576.65	73.54	16,178.43

Samples of steel and iron tested for material to be used in marine boilers, in the seventh district, for the year ended December 31, 1903.

Local district.	Whole number tested.	Samples of steel.	Samples of iron.	Steel failed in tensile strength.	Iron failed in tensile strength.	Steel failed in reduction of area.	Iron failed in reduction of area.	Failed in elongation.
Wheeling, W. Va	2	2	.....	.....	.....	.....	.....	.....
Pittsburg, Pa	335	335	.....	17	.....	.....	.....	.....

MISCELLANEOUS.

In addition to the regular annual inspections the following boilers were inspected in United States Government steamers and in United States Government buildings during the year ended December 31, 1903:

Local inspection district.	Name of steamer or building.	Port where inspected.	Date inspected.	Number of boilers inspected.
	STEAMERS.			
Cincinnati, Ohio	E. A. Woodruff	Cincinnati, Ohio	Apr. 21	6
Do	Goldenrod	do	June 10	2
Wheeling, W. Va	Leota	Marietta, Ohio	.....	2
Pittsburg, Pa	Wenonah	Pittsburg, Pa	Aug. 4	1
Do	Loma	do	do	1
Do	Slackwater	do	Aug. 8	2
Do	General Theodore Schwan	do	Sept. 12	4
	BUILDINGS.			
Cincinnati, Ohio	Custom-house	Cincinnati, Ohio	Jan. 31	2
Pittsburg, Pa	Post-office	Pittsburg, Pa	Dec. 30	3

CASUALTIES, VIOLATIONS, AND INVESTIGATIONS.

LOCAL DISTRICT OF CINCINNATI, OHIO.

1903.

February 9.—David Holman, colored, deck hand, fell overboard and drowned from steamer *City of Cincinnati* at Vevay, Ind. The yawl was lowered and every effort made to save him.

February 13.—Albert J. Gould, master of the steamer *W. O. O'Neil*, was charged with violation of section 4439 of the Revised Statutes. Investigated. Charges not proven. Dismissed.

March 18.—The steamer *Frank Miller*, ascending the Ohio River at Vevay, Ind., broke her water-wheel shaft and knocked out both heads of starboard cylinder. No one was injured. Damage, about $500.

March 30.—Kirk Culver, master and pilot, was charged with violation of sections 4439 and 4442, Revised Statutes. Violations admitted. License suspended for a period of 60 days.

April 1.—John Barnaby, colored, ash hauler on steamer *Indiana*, fell into the river while working in the wheel, at Cincinnati wharf, and drowned before assistance could reach him.

April 6.—Steamer *City of Wheeling*, descending the Ohio River near Ethridge Landing, Ky., broke her water-wheel shaft. Cost of repair estimated at $1,500. No lives lost or persons injured.

May 1.—Steamer *Tacoma*, while lying at wharf at Cincinnati, Ohio, burst safety-valve chamber on port boiler. No one hurt. Cost of repair, $50.

June 26.—Steamer *Courier*, ascending the Ohio River near Cincinnati, Ohio, broke strboard wrist, causing engine to run through. Albert Johns, chief engineer, was slightly injured. Cost of repairs, about $500.

July 1.—Steamers *Sunshine* and *City of Wheeling*, both descending the Ohio River, collided at Lawrenceburg, Ind. Investigated. Both pilots admitted violation of pilot Rule II and section 4442, Revised Statutes. The license of Lucien E. Bowen, master and pilot, and of Charles W. Brasher, master and pilot, were suspended for a period of 30 days each.

July 7.—Frank C. Thomas, pilot, was charged with being under the influence of liquor while on duty as pilot of the ferry steamer *Whisper* at Augusta, Ky. Violation admitted. License suspended for a period of 30 days.

July 17.—William Elsholz, deck hand, fell overboard and drowned from steamer *Sunshine* as she was backing out from Petersburg, Ky. The yawl was lowered and every effort made to save him.

July 27.—Charles Durrah, colored, cabin boy on steamer *Henry M. Stanley*, was seated on the outside guard rail of the boat, laid up at wharf boat at Cincinnati, lost his balance, fell overboard, and drowned before aid could reach him.

August 1.—The steamer *Adelle*, with one barge in tow, ascending the Ohio River just below Coney Island, Ohio, collided with the steamer *Hudson*, descending. Case investigated. License of Frank P. Mooar, pilot of steamer *Adelle*, was suspended for a period of 30 days.

August 25.—Steamer *Wash Honshell*, laid up at Cincinnati, Ohio, caught fire from sparks from blacksmith forge. Damage to upper works, $5,000. No persons injured.

September 3.—Steamers *Tom Rees No. 2* and *Val P. Collins*, both descending the Ohio River at California, Ky., with tows of coal, had an unavoidable collision, sinking one barge of coal in tow of the *Rees* and doing small damage to the *Collins*.

September 3.—Steamer *Dave Wood*, descending, and the *Bill Clark*, ascending, the Ohio River at Cincinnati, Ohio, collided. Damage to the upper works of steamer *Dave Wood*, about $1,500. John Bartlett, fireman on the *Dave Wood*, is missing, supposed to have been drowned. Investigated. License of D. A. McDonald, jr., pilot of the *Dave Wood*, suspended for 30 days. License of Charles K. Walker, pilot of the *Bill Clark*, suspended for 20 days.

September 5.—Alvin T. Nash, engineer of pleasure yacht *Senator*, was raising steam while yacht was laid up at the foot of Delta avenue, Cincinnati, when boiler tube collapsed, scalding him on legs and arms. He died three days later from nervous shock.

September 16.—C. Williams, colored, rouster on steamer *Levi J. Workum*, fell overboard while steamer was lying at Florence, Ind., and was drowned. Every effort was made to save him.

September 28.—William Donnelly, of Chilo, Ohio, a passenger on steamer *Lizzie Bay*, fell overboard and was drowned near Eightmile, Ohio.

October 10.—Steamer *Sunshine*, descending the Ohio River, struck a hidden obstruction at Marshalls Landing, Ky., and sunk. Was raised and repaired. Damage, about $500. No lives lost or persons injured.

October 17.—William T. Jones, chief engineer of steamer *W. H. Grapevine*, was charged with intemperance. Investigated. Charge not proven. Dismissed.

October 23.—Steamer *Florence Marmet*, descending the Ohio River, struck a hidden obstruction near the mouth of Little Miami River and sunk. Steamer raised and repaired. Amount of damage not reported. No lives lost.

October 26.—John R. Holcroft, assistant engineer of steamer *City of Cincinnati*, charged with unskillfulness. Investigated. Charge not sustained. Dismissed.

November 28.—Steamer *Coal City*, ascending the Ohio River with an empty tow, struck a snag near Vanceburg, Ky., and sunk. Was raised and will be repaired. Estimated damage, $3,000. No lives lost or persons injured.

November 28.—Eugene E. Smith, chief engineer, charged with violation of section 4441, Revised Statutes. Violation admitted. License suspended for a period of 90 days.

December 3.—James Daly, while attempting to step from steamer *Indiana* to wharf boat, at Risingsun, Ind., fell overboard and was drowned before assistance could reach him.

December 6.—Clayton L. Crawford, chief engineer, charged with violation of section 4446, Revised Statutes. Investigated. Crawford found to have been acting under an expired license. Referred to United States district attorney, who dismissed the case.

December 20.—Steamer *Ada V.*, laid up at Newport, Ky., sunk by her bitts pulling out, knocking a hole in her hull. Steamer has been raised, and will be repaired. Estimated damage, $500. No lives lost or persons injured.

December 27.—Steamer *W. H. Grapevine*, lying at her wharf at foot of Vine street, was cut down by ice and totally destroyed. Valuation, $10,000. No lives lost or persons injured.

LOCAL DISTRICT OF GALLIPOLIS, OHIO.

1903.

January 3.—Steamer *Mariner* was ascending the Ohio River with an empty tow trailing in ice, and when near Ravenswood, W. Va., George West, a deck hand, fell from yawl that was being pulled from barges to steamer and was drowned before assistance could reach him.

February 2.—Samuel Quillen, a deck hand on steamer *Convoy*, fell overboard and was drowned at Handley, W. Va.

February 5.—Steamers *Sam Brown* and *Charles Brown*, descending the Ohio River with tows of coal, collided near Gallipolis, Ohio, on account of an accumulation of drift under the barges while laid up in fog. One boat sunk. Damage, $1,200.

February 28.—Steamer *Excel* struck a snag at Lock No. 5, Little Kanawha River, capsized and sunk. Raised and repaired at a cost of about $1,500.

May 27.—Steamer *H. M. Stafford* was referred to United States district attorney for navigating under an expired certificate and without a licensed engineer.

June 2.—The license of Chief Engineer Joseph B. Gilpin was suspended 30 days for intemperance.

September 5.—The license of Chief Engineer James A. Summers was suspended for 60 days for acting as pilot on the steamer *Liberty* without license, and the case was referred to the United States district attorney.

September 5.—Frank Gay was reported to the United States district attorney for acting as chief engineer on the steamer *Liberty* without license.

September 28.—The license of Chief Engineer George E. Butcher was suspended for 30 days for acting as pilot on steamer *Champion No. 2* without a license.

October 1.—The license of Master and Pilot Louis B. Allen was suspended for 60 days for intemperance.

October 17.—The ferry steamer *Champion No. 2* sunk at her float, at Gallipolis, Ohio, from having a hole punched in her side. Was raised and repaired at a cost of about $600. No lives lost.

LOCAL DISTRICT OF WHEELING, W. VA.

1903.

January 1.—Henry Jackson, deck hand on steamer *Greenwood*, slipped and fell, injuring his head, while carrying off freight at New Martinsville, W. Va. Was sent to Marine Hospital, at Wheeling, W. Va., where he died January 29.

January 5.—While steamer *Iron Age* was laid up at Dilleys Bottom, the pilot house caught fire, doing slight damage.

January 27.—Patrick McCrail, of Bellaire, Ohio, a passenger on the steamer *H. K. Bedford*, disappeared between Moundsville, W. Va., and Powhatan, Ohio, and is supposed to have been drowned.

February 16.—William Park, deck hand on the steamer *P. M. Pfeil*, fell overboard and was drowned near Wellsville, Ohio.

February 22.—While steamer *Tom Rees No. 2* was laid up with a tow at New Cumberland, W. Va., backing up under a slow bell, three deck hands attempted to row around her wheel and were drawn under it. William Crothers, of Pittsburg, was drowned.

July 4.—James A. Fontaine, jr., a passenger on steamer *Leroy*, fell from the hurricane roof and was drowned, at Moundsville, W. Va.

July 11.—Steamer *Leroy* broke main wheel shaft, at Capitana Island, W. Va. Damage, about $500.

July 17.—Robert McG. Steel, deck hand on steamer *Ben Hur*, was killed at Cains Landing, Ohio, while carrying gas pipe.

August 29.—William Pratt and Anthony Halleran, passengers on steamer *Charon*, engaged in a fight. Both fell overboard and were drowned.

LOCAL DISTRICT OF PITTSBURG, PA.

1903.

January 16.—Charges were preferred against Chief Engineer Thomas Donovan for carrying excessive steam on the *George W. Moredock* and allowing the steamer to be navigated in an unsafe condition. Investigated. Charge not sustained. The license of Thomas Donovan was suspended for 30 days for carelessness and neglect of duty.

January 16.—Steamer *Columbia*, while laid up at the Pittsburg wharf, caught fire and was almost totally destroyed. Steamer was rebuilt. Estimated loss, $20,000.

February 1.—William King, a carpenter on steamer *Ford City*, repairing wheel at Braddock, fell into the river and was drowned.

February 11.—Steamers *Vulcan* and *Rover* collided while descending the Monongahela River, near Pine Run, mashing the wheel of *Vulcan* and sinking a loaded coal boat in tow of the *Rover*. Estimated damage, $925. Case investigated. Unavoidable collision.

February 26.—Steamer *Twilight* and *H. P. Dilsworth* collided while descending the Monongahela River near McKeesport, Pa., damaging the *Dilsworth* about $1,000. Case investigated. License of James W. Downer, pilot of the steamer *Twilight* was suspended 20 days for unskillfulness.

March 3.—Louis Kraft, engineer of steamer *Iron Age*, fell overboard and was drowned while steamer was laid up cleaning boilers at John A. Woods Landing, Ohio.

March 7.—Ferry steamer *Neptune*, while crossing the Ohio River from Pittsburg to Allegheny with eight passengers, was backed into by steamer *Margaret* and wrecked. No lives lost. Estimated damage, $1,000. Case investigated and the license of Samuel V. Carter, pilot of the *Margaret*, was suspended for a period of 60 days for recklessness and unskillfulness.

March 15.—Steamer *Harry No. 2*, while lying at Charleroi, Pa., caught fire and was burned. No loss of life. Estimated damage, $3,500. Steamer was rebuilt.

April 17.—Andrew Leacher, one of the crew of the dredge steamer *Independent*, fell overboard and was drowned at Bunola, Pa., while exchanging loaded flats for empties.

April 18.—Charges were preferred against Engineer G. A. Wright for weighting the safety valves and carrying excessive steam on the steamer *Catharyn*. Case investigated. Charges not sustained.

April 19.—Steamers *Bertha*, ascending, and *W. C. Jutte*, descending, the Monongahela River, collided in a fog near Wests Landing, damaging a barge in tow of the *Bertha* and striking a coal boat in tow of the *Jutte*. Estimated damage, $2,800. Investigaed. Collision unavoidable.

April 19.—Steamers *R. L. Aubrey*, ascending light, and *James Moran*, descending with a loaded tow, collided near the head of Brunot Island, Ohio River, sinking a coal boat. Estimated loss, $2,500. Investigated. Pilots of both steamers were exonerated.

April 22.—M. Mullen, a deck hand on the passenger steamer *Rose Hite*, fell overboard and was drowned above Lock No. 3, on Monongahela River.

April 22.—Charges were preferred against Engineer Carl A. Watson for carrying excessive steam on steamer *Hazel L. Watson* and running said steamer with expired certificate. Charges were withdrawn before an investigation was held.

April 22.—Charges were preferred against Engineers Francis A. Brunner and George B. Alexander for weighting the safety valves and carrying excessive steam on the steamer *Carbon*. Investigated. Charges were not sustained.

April 22.—Charges were preferred against Engineers Harry Clawson and Albert Barrel for weighting the safety valves and carrying excessive steam on the steamer *Little Dick*. Investigated. Charges were not sustained.

April 22.—Charges were preferred against Engineers William Stanley and Griffith Donaldson for weighting the safety valves and carrying excessive steam on the steamer *Cyclone*. Charges were withdrawn before an investigation was held.

April 27.—Charges were preferred against Engineeers William Williams and Francis M. Cooper for weighting the safety valves and carrying excessive steam on the steamer *Pittsburgh*. The charges were withdrawn before an investigation was held.

April 27.—Charges were preferred against Engineers O. K. McKeage and Arthur McKay for weighting the safety valves and carrying excessive steam on the steamer *Jim Wood*. Investigated. Charges not sustained.

April 27.—Charges were preferred against Engineers John Henning and Frank Jenkins for weighting the safety valves and carrying excessive steam on the steamer *Tornado*. The case was investigated and the license of Chief Engineer John Henning was suspended for a period of 90 days, and the case was reported to the United States district attorney.

May 25.—Steamer *M. Dougherty*, while lying at Brown's station, sprang a leak and sunk. No one on board, and no steam up. Steamer was raised and put in commission. No damage.

May 26.—Thomas Sanders, colored, fireman on steamer *Rose Hite*, fell overboard and drowned in the Monongahela River above Lock No 2.

May 28.—Steamer *Nellie Walton*, while descending the Ohio River, with a tow of coal, grounded her tow at the Trap, swung around, capsized, and sunk. Steamer wrecked and abandoned. Estimated loss $10,000.

June 2.—William A. Ruth, chief engineer of the steamer *Rose Hite*, was reported by her master as having gone ashore and came back to the boat intoxicated.

June 7.—Steamer *Olivette*, while crossing the Alleghany River at Six Mile Island, with an empty tow, struck a rock and sunk. Steamer raised and repaired. Estimated damage, $500.

June 16.—Steamer *Mayflower*, while backing out from the city wharf, Monongahela River, collided with the steamer *Dauntless*, mashing the head of the latter steamer. Estimated damage, $300.

July 9.—Elmer Baker, a deck hand on the dredge steamer *Rebecca*, lying behind Brunot Island, went ashore in yawl about 9 p. m. to get an empty flat. He did not return, and his body was afterwards found in the river.

July 24.—John Gilmore, a deck hand on steamer *Juniata*, caught his foot in a line and had it badly crushed, while passing into Lock No. 5.

August 2.—Harry Bush, one of the crew of the steamer *Cadet*, fell overboard and drowned opposite Monongahela City, Pa.

August 16.—Percy Colgan, a passenger on the steamer *J. O. Watson*, fell overboard and was drowned while the steamer was landing at Monessen, Pa.

September 2.—Steamer *Clipper*, while lying at Walton's coal works on the Monongahela River, took fire and burned. Total loss, $18,000. No loss of life.

September 3.—Harry Overfield, a passenger on the steamer *Isaac N. Mason*, fell overboard and drowned near Maidsville Landing, on Monongahela River.

September 4.—The dredge steamer *Pittsburgh*, lying in the Allegheny River below Forty-third street, sprang a leak and sunk. No persons injured. Steamer raised and repaired. Estimated damage, $400.

September 22.—James Ramsey, steward on steamer *Vulcan*, was found dead in his berth, supposed to be due to his drinking drugs.

September 25.—While the steamer *I. C. Woodward* was ascending the Monongahela River near Stoners Run, a man named Rolland, supposed to have been beating his way, walked overboard and drowned.

November 17.—Steamer *Return*, ascending the Alleghany River with an empty tow, struck a hidden obstruction and sunk. Estimated damage, $2,000.

November 23.—Steamers *Frank Gilmore* and *Andrew Axton* collided on the Monongahela River above Elizabeth, Pa., damaging a flat in tow of the *Gilmore* to the extent of $200.

November 29.—Steamer *George W. Moredock*, while lying at Neals Landing, Ohio River, caught fire and was totally destroyed. No loss of life. Estimated loss of steamer, $12,000.

December 14.—Steamers *Vulcan* and *Vesta*, while backing through ice with tows, collided on the Monongahela River at Elizabeth, Pa., damaging the wheels of both steamers. No investigation. Unavoidable accident. Estimated damage, $300.

S. R. CRUMBAUGH,
Supervising Inspector, Seventh District.

The SUPERVISING INSPECTOR-GENERAL,
Washington, D. C.

EIGHTH DISTRICT.

STEAMBOAT-INSPECTION SERVICE,
OFFICE OF U. S. SUPERVISING INSPECTOR,
Detroit, Mich., January 2, 1904.

SIR: In compliance with the provisions of section 4410, Revised Statutes, I submit the following report of the general business transacted in the eighth supervising district during the year ended December 31, 1903:

Vessels inspected, added to service, etc.

Local district.	Inspected.		New vessels added to service.		Gone out of service.		Gone into other districts.	
	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.
Detroit, Mich	141	85,576	18	21,302			55	89,799
Chicago, Ill	174	160,051	12	21,940	2	49	62	102,795
Grand Haven, Mich	199	45,200	3	85	2	321	31	10,664
Marquette, Mich	115	26,072	1	5			19	8,637
Milwaukee, Wis	262	152,219	10	358	3	116	68	68,329
Port Huron, Mich	155	76,480	14	31,012	5	4,170	24	23,025
Total	1,046	545,528	58	74,702	12	4,656	259	248,749
Total in previous year	1,053	498,808	50	65,024	18	2,024	277	283,172
Decrease	7				6		18	34,423
Increase		46,720	8	9,678		2,632		

Boilers inspected.

Local district.	Number inspected.	Number defective.	Number condemned.	Defects in boilers and attachments.				
				Sheets.	Steam and mud drums.	Steam pipes.	Flues and tubes.	Boiler heads.
Detroit, Mich	211	2		1				1
Chicago, Ill	240	18		15		1	38	
Grand Haven, Mich	249	3		6	2		1	1
Marquette, Mich	127	22		24	2	5	4	2
Milwaukee, Wis	347	14		7		1	5	1
Port Huron, Mich	175	6		4		1	5	
Total	1,349	65		57	4	8	53	5
Total previous year	1,365	59		109	4	11	40	3
Decrease	16			52		3		
Increase		6					13	2

Officers licensed.

Local district.	Steam and other motor vessels.							Sail vessels and barges.		Total.
	Masters.	Masters and pilots.	Mates.	Mates and pilots.	Pilots.	Joint pilots and engineers.	Engineers.	Masters.	Chief mates.	
Detroit, Mich		36			57	2	89			184
Chicago, Ill		21			50	13	70			154
Grand Haven, Mich		12			57	10	79			158
Marquette, Mich		9			28	1	41			79
Milwaukee, Wis		23			61	9	65			158
Port Huron, Mich		52			98	5	83			238
Total		153			351	40	427			971
Total in previous year		1,084			1,068	89	2,037			4,228
Decrease		931			717		1,610			3,257
Increase						1				

Violations of the steamboat laws.

Local district.	Investigations.					Appeals.			
	Cases investigated.	Dismissed.	Licenses suspended.	Licenses revoked.	Cases reported to district attorney, and to chief officers of customs.	Number of appeals.	Decisions revoked.	Decisions modified.	Decisions sustained.
Detroit, Mich	3	1		2	2	1			1
Chicago, Ill					6				
Grand Haven, Mich	4		1		2				
Marquette, Mich	12		4		10	1			
Milwaukee, Wis					2	1	1		
Port Huron, Mich			1		1	4	2		2
Total	19	1	6	2	23	7	3		3
Total previous year	17	4	8	2	4	10	3	1	6
Decrease		3	2			3		1	3
Increase	2				19				

Expenditures during the year ended December 31, 1903.

District.	Salaries.	Traveling expenses.	Incidentals.	Total.
Supervising inspector, eighth district	$3,000.00	$991.18	$111.20	$4,102.38
Detroit, Mich	4,469.53	108.20	41.66	4,619.39
Chicago, Ill	4,202.16	166.05	66.13	4,434.34
Grand Haven, Mich	5,200.00	1,356.70	9.72	6,566.42
Marquette, Mich	3,815.46	919.55	16.91	4,751.92
Milwaukee, Wis	7,397.80	1,498.74	32.73	8,929.27
Port Huron, Mich	4,800.00	1,010.30	25.61	5,835.91
Aggregate	32,884.95	6,050.72	303.96	39,239.63

Samples of steel and iron tested for material to be used in marine boilers, in the eighth district, for the year ended December 31, 1903.

Local district.	Whole number tested.	Samples of steel.	Samples of iron.	Steel failed in tensile strength.	Iron failed in tensile strength.	Steel failed reduction of area.	Iron failed reduction of area.	Failed in elongation.	Rejected for surface defects.
Detroit, Mich	32	32				4		2	
Chicago, Ill.[a]	8	8							
Chicago, Ill.[b]	8	8		1					1
Milwaukee, Wis.[c]	56	56		1					

[a] Tested at the mills of the Illinois Steel Company, of South Chicago, Ill., by Local Inspector Stewart H. Moore, of Chicago, Ill.

[b] Tested at the mills of the Illinois Steel Company, of South Chicago, Ill., by Local Inspector Roy L. Peck, of Chicago, Ill.

[c] Tested at the mills of the Illinois Steel Company, of South Chicago, Ill., by Assistant Inspector Collins, of Milwaukee, Wis.

MISCELLANEOUS.

In addition to the regular annual inspections, the following boilers were inspected on United States Government steamers and in United States Government buildings during the year ended December 31, 1903:

Local district of Detroit, Mich.—March 25, inspected 1 boiler in light-house tender *Haze* and 1 boiler in Bar Point light-ship; October 5, inspected 8 boilers in post-office at Detroit, Mich.; September 15, tested material intended to be employed in the construction of 2 boilers for United States public building at Helena, Mont.; October 28, inspected 2 boilers in old Federal building at Detroit, Mich.; November 10, inspected 2 boilers at Detroit River light; November 13, tested material intended to be employed in the construction of 2 boilers for United States public building at Helena, Mont.

Local district of Chicago, Ill.—May 14, tested 2 boilers in U. S. S. *Dorothea* at Chicago; June 23, tested the boiler in U. S. S. *Dearborn* at Chicago; July 8, tested 2 boilers at Racine, Wis., for Major Hoxie, U. S. Army, by direction of the honorable Supervising Inspector-General, Department letter dated July 3, 1903. Unable to state where boilers are to be used.

Local district of Milwaukee, Wis.—May 19, inspected 1 new boiler in steamer *Fox* at Oshkosh, Wis.

Local district of Grand Haven, Mich.—April 1, inspected 1 boiler in each of the light-ships Nos. *55*, *56*, and *57*. Inspection made at Cheboygan, Mich.; April 13, inspected at Ferrysburg new steel boiler for United States dredge, to be used on the Cumberland River.

CASUALTIES, VIOLATIONS OF LAW, AND INVESTIGATIONS.

LOCAL DISTRICT OF DETROIT, MICH.

1903.

January 5.—License of Alexander H. Meldrum, assistant engineer, was revoked for violation of section 4445, Revised Statutes; making false statements in his application. Case reported to United States district attorney, Detroit, January 5.

February 5.—License as assistant engineer granted to Daniel C. Quigley January 30, 1903, was revoked February 5 for having made false statements in his

application, same being a violation of section 4445, Revised Statutes. Case reported to the United States district attorney for the eastern district of Michigan.

May 25.—While lying at dock at foot of Chase street, Delray, fire was discovered on steamer *Luna*, about 3.30 p. m. No lives lost. Damage estimated at $7,000.

May 30.—At 12.15 a. m., while on Lime Kiln Crossing ranges, steering engine of steamer *Merida* gave out. Steamer took a sheer to starboard. Hand steering gear applied, but steamer could not recover and grounded. Bottom of steamer damaged to such extent that leak started. Damage estimated, $8,000. Steamer, after lightering part of cargo, proceeded on voyage.

June 1.—Fire from some unknown cause did about $500 damage to steamer *Farragut*, while lying at dock at foot of Campau street, Detroit, Mich., about midnight, May 31. No lives lost.

June 30.—At about 8.40 p. m. steamer *C. W. Elphicke* collided with unknown steamer abreast of Grosse Isle light-house, Detroit River. Damage estimated at $4,000. No lives lost.

July 28.—Steamer *William S. Mack*, upbound, and steamer *City of Rome*, down bound, collided, doing damage to steamer *City of Rome* estimated at $10,000. No damage to steamer *William S. Mack*. No lives lost or persons injured.

August 10.—Shortly after leaving dock at foot of Randolph street, Detroit, steamer *Mascotte* collided with steamer *Owana*, upbound. Accident occurred about 4.11 p. m., standard time. Steamer *Owana* struck forward of port paddle box. Damage to steamer *Mascotte*, estimated, $50; to steamer *Owana*, estimated between $500 and $600. No lives lost or persons injured.

August 12.—Steamer *J. S. Keefe*, down bound, met steamer *C. A. Black* having barge *130* in tow, upbound. When passing, steamer *J. S. Keefe* took a sheer to port, colliding with barge *130*. Estimated amount of damage to barge *130*, $3,000; to steamer *J. S. Keefe*, $3,000. No lives lost or persons injured.

August 14.—While steamer *Frank E. Kirby* was unloading freight at dock on August 2, Alonso Brown, deck hand, fell between steamer and dock, and drowned. Body grappled for and recovered in less than six minutes.

August 17.—While lying at dock at foot of Dubois street, Detroit, about 2 a. m., steamer *Mary* sunk. No lives lost or persons injured. Cause of casualty unknown. Estimated amount of damage, $3,000. Steamer will be raised.

September 8.—Charges preferred that a second-class pilot was being allowed to navigate the ferry steamer *Promise* at Detroit. Case investigated and charges not sustained.

November 16.—Owing to strong current in narrow channel, steamer *Wm. L. Brown* became unmanageable and went aground at Lime Kiln Crossing, Detroit River. Estimated damage, $15,000. No loss of life.

November 17, 1903.—Steamer *S. S. Curry* stranded at Lime Kiln Crossing, Detroit River. Steamer *Wm. L. Brown* lay across the channel between the two light-ships. It caused the steamer *S. S. Curry* to sheer to starboard and ground on the east bank. Estimated damage, $3,000. No loss of life.

November 17.—Steamer *Neptune* struck rocky bottom at Lime Kiln Crossing, Detroit River, caused by steamer *Wm. L. Brown* being stranded in channel. Damage to steamer *Neptune*, $10,000. No loss of life.

November 19, 1903.—Steamer *Wilbert L. Smith* stranded on Detroit River near Amherstburg. Anchor dragged, causing steamer to strand. Estimated damage, $13,000. No loss of life.

LOCAL DISTRICT OF CHICAGO, ILL.

1903.

January 1.—While lying at her dock, Chicago River, the fire steamer *Geyser* caught fire in some unknown manner, and was damaged to the amount of $300. The fire occurred about 10 a. m.

April 9.—Steamer *Alfred Mitchell* in tow of tug *Success*, going up Chicago River, collided with steamer *Boston*, lying in ordinary at Lehigh Valley dock, on port quarter. Damage to steamer *Boston*, $1,000; to steamer *Alfred Mitchell*, none.

April 27.—Steamer *Kanawha* ran on expired certificate of inspection on the route between Buffalo and Chicago, on April 22, 23, and 24. Violation reported to United States collector of customs and the United States district attorney, Chicago, Ill.

May 15.—After steamer *Tuscarora* had unloaded its cargo, a man, name unknown, attempted to jump to the dock from the steamer, but fell into the Chicago River and was drowned. The coroner's verdict was accidental drowning.

June 2.—Steamer *Charles S. Neff* struck rocks at Canadian Soo, damaging her bottom and breaking her wheel. Steamer was towed off by tug *General.* Damage to steamer, about $3,000.

June 18.—Steamer *Mary* lost her wheel when about 15 miles out from Michigan City, Ind., on her way to Chicago, Ill. While the boat was violently shaken up, no one was hurt. The customary distress signals were given and steamer towed into Chicago by a tug sent to her assistance.

July 3.—During the night the steamer *Glenn,* while lying at the Ship Owners' dry dock awaiting repairs, caught fire, and before the same could be extinguished suffered a loss of approximately $5,000. No one was injured.

July 5.—George Parkinson, owner of the steamer *Viking,* pleasure yacht, ran that steamer on Sunday, July 5, 1903, at or about the hour of 6.30 p. m., on an expired certificate of inspection; ran said steamer without properly licensed officers and carried passengers for hire on a "pleasure-yacht" expired certificate of inspection. Relative to section 4465, Revised Statutes, said George Parkinson carried 27 passengers in said steamer *Viking* when allowed but 12 passengers on his certificate of inspection. Customs officer notified July 6, 1903.

July 16.—Steamer *City of South Haven,* while exchanging billets with steamer *Manitou,* became unmanageable, colliding with the steamer *Manitou* and striking the abutment to Rush Street Bridge. No damage was done. On July 17 made inspection of steamer and found the signaling apparatus was defective. Ordered the necessary alterations and repairs.

July 17.—During the severe storm that prevailed in and about Chicago and on Lake Michigan, July 17, one F. Bradley, a deck hand on the steamer *Mary,* received serious injury to one of his limbs by having a ballast barrel roll against the same.

July 18.—Steamer *F. L. Vance,* in tow of tug *O. B. Green,* while coming around bend of Chicago River at the National Elevator, collided with steamer *Andy,* lying in ordinary, on port side. Damage to steamer *Andy,* $500; to steamer *F. L. Vance,* none.

July 22.—Steamer *John P. Hopkins* ran on an expired certificate of inspection. The above violation occurred, we believe, by reason of neglect. The name of the master commanding said vessel is not known to this board. Violation reported to proper authorities.

July 22.—Steamer *Eastland,* while winding at Lake Street Bridge, Chicago, with the assistance of a tug, collided with the tug *Gardner* by reason of the tow line breaking, resulting in the sinking of the *Gardner.* Tug *Gardner* had been laid up for some time and was not in commission at the time of accident. Damage to steamer *Eastland,* none.

July 23.—At 4.30 a. m. steamer *City of Kalamazoo,* while approaching her dock in the Chicago River, with the engine in the backward motion, broke coupling bolts in the forward coupling of the intermediate shaft. No one injured. Damage, $1,500.

July 26.—On Sunday night, July 26, the steamer *Petoskey* was navigated on an expired certificate of inspection from South Haven, Mich., where she had been laid up, to Chicago, to take the place of disabled steamers belonging to the Dunkley-Williams Company, the inspectors at Grand Haven being unable to comply with request for inspection at that time. Violation reported to proper authorities.

July 26.—At about 8.35 p. m. the counterbalance on the low-pressure crank shaft of the steamer *Mary* broke and crashed into the engine frame and bedplate, thereby causing great damage to the engine. The low-pressure engine was at once disconnected, and the vessel was able to resume her course by working the high-pressure engine. No one injured. Damage, $7,000.

August 26.—At or about 1.15 a. m. a man named Barney O'Neil, mess-room waiter on the steamer *City of South Haven,* fell from the forward part of the boat overboard and was drowned. Steamer was lying at its dock near Rush Street Bridge, Chicago.

September 6 and 13.—Steamer *Eastland* neglected to renew excursion permit, which had expired September 1, and on the 6th and 13th of September carried 504 and 111 passengers more than her regular number. Her equipments for excursionists, however, were all on board, and this board is of the opinion that it was simply a case of oversight in not renewing excursion permit.

October 28.—Steamer *Alfred Mitchell*, in tow of a tug, was caught by current and struck steamer *Neosho* lying at dock. Estimated damage to steamer *Neosho*, $350; to steamer *Alfred Mitchell*, none.

October 30.—At 4.35 p. m. steamer *Wawatam*, bound for South Chicago, stranded on an unknown obstruction off Belmont avenue, Lake View, Chicago. Estimated damage to steamer. $15,000.

November 6 to 19.—Steamer *Chicago*, fire boat, was inspected November 6, at which time repairs were ordered to be made to the lifeboat, and the letters of her name on sides of her pilot house enlarged to comply with section 4495, Revised Statutes. At this time this board was assured same would be promptly complied with, but up to November 19 none of the work has been done, nor could we get any assurance that it would be done. On November 12 the steamer was navigated from Chicago to South Chicago without her certificate of inspection being on board, it not having been issued at the time. Violation reported to the proper authorities.

November 13.—In some manner unknown to the officers of the steamer *General Orlando M. Poe*, a delivery boat, with supplies for the steamer *Penobscot*, lying in the same slip, got between the above-named steamers and was crushed badly. Estimated damage to the delivery boat, $250; to the steamers *Poe* and *Penobscot*, none. No lives lost or persons injured.

LOCAL DISTRICT OF GRAND HAVEN, MICH.

1903.

June 25.—Steamer *John Craig* stranded on a rock about three-fourths of a mile west-southwest of Simmons Reef Gas Buoy. Damage, $40,000.

July 4.—While steamer *Pere Marquette 3* was on her way from Ludington to Manistee, William Goede, watchman, fell overboard and was drowned.

July 27.—Steamer *Alice Stafford*, when about 35 miles from Grand Haven, broke her piston. Damage, $1,000.

August 10.—When steamer *Alice Stafford* was about four hours out of Chicago, a hand-hole plate from the starboard boiler and the soft plug of the port boiler blew out. Steamer was picked up by the steamer *H. W. Williams* and towed into St. Joseph.

September 16.—Steamer *Welcome* stranded 2 miles west of Charlevoix Bay. Loss, $10,000; total.

September 26.—Steamer *Joe* stranded about 1 mile south of Holland Harbor, and was a total loss; amount, steamer, $3,500; cargo, $725.

October 14.—Steamer *Merida* stranded on Little Point Sauble. No damage.

November 4.—Steamer *Walter L. Frost* stranded on the southwest point of South Manitou Island. Amount of damage not known.

November 4.—Steamer *I. W. Nicholas* stranded on the south side of Simmons Reef. Amount of damage not stated.

July 18.—Completed the examination and investigation of the charges filed by Capt. Henry J. Smith against Capt. Thomas W. Vaughan. Charges were not substantiated.

July 27.—Reported to the collector of customs steamer *Maggie Marshall*, for running on an expired certificate of inspection from July 17 to 28, inclusive.

July 27.—Reported to the collector of customs steamer *Favorite*, for running on an expired certificate of inspection from July 12 to 16, inclusive.

July 29.—Complaint was filed against Capt. John U. Emory for carrying passengers in the pilot house of the steamer *Silver Spray*. Charge was investigated, and the second-class pilot's license of John U. Emory was suspended for 15 days.

LOCAL DISTRICT OF MARQUETTE, MICH.

1903.

February 23.—While lying at the dock at Manistique, Mich., the steamer *Anabel* caught fire and a portion of the pilot house and boiler house was destroyed. Cause of fire unknown. Damage, $200.

April 24.—Steamer *I. N. Foster*, charged with violation of section 4417, Revised Statutes, running on an expired certificate of inspection. Violation reported to proper authorities. Fine remitted.

April 24.—Steamer *Nettie Denessen*, charged with violation of section 4417, Revised Statutes, running on an expired certificate of inspection. Violation reported to proper authorities. Fine remitted.

April 24.—Steamer *John Denessen*, charged with violation of section 4417, Revised Statutes, running on an expired certificate of inspection. Violation reported to proper authorities. Fine remitted.

May 4.—While upbound on a voyage to Duluth, in a snowstorm, steamer *George B. Leonard* stranded on Vidal Shoal, damaging the bottom to the extent of $27,000.

May 6.—Steamer *H. F. Bues*, charged with violation of section 4417, Revised Statutes, running on an expired certificate of inspection. Violation reported to proper authorities. Fine remitted.

May 6.—Steamer *Hunter*, charged with violation of section 4417, Revised Statutes, running on an expired certificate of inspection. Violation reported to proper authorities. Fine remitted.

May 14.—While the steamer *Cadillac* was lying at Presque Isle ore dock, weather clear and no sea, the watchman, Andrew Johnson, was found missing. Search was at once instituted, and he was found on the bottom flooring of cargo hold unconscious. Was taken to St. Mary's Hospital and died seven hours later.

May 20.—While the steamer *Monroe C. Smith* was passing the barge *No. 86* in tow of the Canadian steamer *Imperial*, near the Little Rapids cut in the St. Mary's River, the barge in making the turn sagged into the steamer *Monroe C. Smith*, damaging the latter vessel to the amount of $1,000.

May 22.—When steamer *Business* was about 10 miles from Huron Island, Lake Superior, the main shaft of the engine broke. The vessel was towed to Houghton for repairs. Estimated damage, $200.

June 2.—Steamer *Columbia*, charged with violation of section 4417, Revised Statutes, running on an expired certificate of inspection. Violation reported to proper authorities. Fine remitted.

June 15.—Steamer *Ethel J. Pryor* was charged with violation of section 4417, Revised Statutes, running on an expired certificate of inspection. Violation reported to proper authorities. Fine remitted.

June 15.—Steamer *James W. Croze*, charged with violation of section 4417, Revised Statutes, running on an expired certificate of inspection. Violation reported to proper authorities. Fine mitigated to $50.

June 15.—Steamer *The Tramp*, charged with violations of sections 4499 and 4500, Revised Statutes, carrying passengers on a towing certificate. One of the passengers carried, while in an intoxicated condition, fell overboard and was drowned. Violation reported to proper authorities and fine mitigated to $50. License of John Massmann, who was acting as master, was suspended for 50 days. The decision of the local inspectors in this case was appealed from by John Massmann, the master, and decision of local inspectors sustained by supervising inspector.

June 25.—Steamer *Nellie Cotton*, charged with violations of sections 4499 and 4500, Revised Statutes, carrying passengers on a towing certificate. Violations reported to proper authorities. Fine remitted. License of Burdette J. Roberts, first-class pilot, was suspended for 50 days, and license of Byron Glover, chief engineer, suspended for 15 days for violation of section 25, Rule V, rules and regulations. During same day and same trip this steamer had slight collision with steamer *Rochester*, damaging the steamer *Nellie Cotton* to the amount of $41.

July 17.—Steamer *Marshall F. Butters* met the *Zillah* and her tow of three barges, with the *Nellie Reddington* last in tow; passed the first two barges in tow of the *Zillah*, but suction of the bank caught the *Nellie Reddington*, pulling her across the cut. Captain of the *Reddington* cut his tow line, but had no way of stopping his barge. The *Marshall F. Butters* backed, but could not avoid collision, the *Reddington* striking her port bow. Estimated damage to vessel, $2,000.

August 6.—While en route from Superior to Chicago, loaded with iron ore, the steamer *E. M. Peck*, in a dense fog, stranded 2 miles west of Whitefish Point. The steamer was subsequently released, temporarily repaired at Sault Sainte Marie, Mich., and proceeded to Chicago. Estimated damage, $5,000.

September 2.—Steamer *Ionia*, en route to Detour, Mich., loaded with iron ore, stranded on Martin's Reef. Was lightered and released September 4. Damage estimated at $3,000.

September 19.—Steamer *A. A. Parker*, while en route from Allouz Bay, Wisconsin, to Cleveland, Ohio, laden with ore, encountered a gale, sprang a leak,

and foundered. Part of the crew taken off by the life-saving crew and part by steamer *A. A. Parker's* boat. Estimated damage, $55,000.

October 10.—While turning round in the upper end of St. Marys Canal the steamer *C. L. Boynton* collided with the north pier, breaking the steering gear and propeller wheel. Engineer Thomas McGurn charged with violation of section 4499, Revised Statutes. Case investigated, and charges not being substantiated by the evidence, the case was dismissed. Estimated damage to the *C. L. Boynton*, $400.

October 24.—Steamer *J. B. Colgate*, en route to Superior, Wis., from Cleveland, Ohio, had two steel plates in hull broken by heavy sea on Lake Superior, about 15 miles northwest of Portage Canal. Steamer was run back to Hancock, temporarily repaired, and proceeded on her voyage. Estimated damage, $2,000.

October 26.—While en route from Grand Island Harbor, Lake Superior, to Sandusky, Ohio, when about 1 mile northeast of Grand Island the steering gear of the steamer *Manhattan* gave out and the steamer stranded on Grand Island, subsequently caught fire and proved a total loss. Estimated value, $50,000.

October 26.—Steamer *William F. Sauber*, en route to Lake Erie ports from Ashland, Wis., foundered off Whitefish Point, Lake Superior, during a heavy sea. Every effort was made to keep the vessel afloat until Whitefish Point was reached, but at 3 a. m., October 26, the steamer was abandoned and sunk. The crew were taken off by the steamer *Yale*, excepting Capt. W. E. Morris and Frank Robinson, oiler, both of whom were drowned despite efforts to pick them up. Value of the *William F. Sauber*, $80,000.

November 26.—While en route from Chicago to Buffalo, N. Y., laden with flour, the steamer *Commodore*, in a snowstorm, stranded on Simmons Reef. The steamer was subsequently released and proceeded to Buffalo for repairs. No lives lost. Damage, $2,500.

November 29.—While en route from Duluth, Minn., to Buffalo, N. Y., the steamer *J. T. Hutchinson* stranded on an unknown and unmarked reef of rock in Lake Superior, about 5 miles above Eagle Harbor. The steamer was lightered and subsequently released, and in company with two tugs proceeded to her destination. No lives were lost. Estimated damage to vessel, $100,000.

LOCAL DISTRICT OF MILWAUKEE, WIS.

1903.

January 6.—The captain of fishing steamer *Hoffnung* fell overboard and was drowned. Steamer was about 14 miles from Kenosha, Wis., on Lake Michigan.

April 14.—Steamer *Saranac* struck some uncharted obstruction about 3 miles northeast from Wind Point light, Lake Michigan. Big sea running at the time. Estimated damage, $45,000.

May 3.—A fireman on fishing steamer *Lindrup* accidentally fell overboard and was drowned. Accident happened near Two Rivers, Wis., on Lake Michigan.

May 24.—Steamer *City of Paris* stranded on North Point, Milwaukee, Wis., during a dense fog. Was released next day. Estimated damage, $6,000.

May 26.—Steamer *J. J. Hagerman* had a collision with a bridge on Milwaukee River. Bridge was turned onto tug before she was through the draw. No one hurt and no lives lost. Estimated damage, $300.

July 26.—Steamer *Matoa* struck an uncharted obstruction 4½ miles southeast by east one-half east from Milwaukee pier head light. Estimated damage, $2,000.

August 8.—A collision occurred between steamers *M. C. Neff* and *Appomatox* in the Milwaukee River. Steamer *M. C. Neff* was unloading at dock when steamer *Appomatox* in winding around with assistance of tug, struck the *Neff*. Estimated damage to steamer *M. C. Neff*, $500. No damage to steamer *Appomatox*.

August 9.—One of the assistant engineers on steamer *Georgia* was killed. Was caught in the reverse gear of the engine in some unaccountable manner.

August 15.—Steamer *Harriet A. Hart* had a collision with a bridge between Menominee, Mich., and Menekaunee, Wis. Estimated damage to steamer, $5.

August 25.—When steamer *Volunteer* was between Kaukauna, Wis., and Wrightstown, Wis., on the Fox River, one of the crew fell overboard by accident and was drowned.

September 7.—The starboard crank on the side-wheel steamer *Chicago* broke when steamer was between Manitowoc, Wis., and Sheboygan, Wis. Estimated damage, $400.

September 7.—Steamer *City of Racine* broke cross-head strap of the high-pressure engine and also the cylinder head. Happened between the harbor piers at Milwaukee, Wis. Estimated damage, $600.

October 16.—Steamer *Eric L. Hackley* left Menominee bound for Egg Harbor Wis. When about one hour out was struck by a heavy squall, thrown down on her beam end and sunk. Her master, cook, and deck hand, and 8 passengers were lost. Valuation of steamer is estimated at $3,000.

October 14.—Man fell overboard from steamer *Jay Gould* at Manitowoc, Wis., and was drowned. Supposed to have been intoxicated.

October 14.—Steamer *Ferdinand Schlesinger* collided with schooner *Ellen Williams* in the vicinity of South Manitou Island. Weather foggy. Estimated damage to steamer, $50.

October 17.—Steamer *New Orleans* stranded on Whitefish Point, north of Sturgeon Bay, Wis. Steamer was south bound loaded with coal and was leaking badly. She kept close to shore and misjudged the distance and ran on Whitefish Point Reef. Estimated damage, $10,000.

November 12.—Steamer *S. C. Baldwin* got caught in ice about 7½ miles northeast of Long Tail Point and sunk. No one hurt and no lives lost. Total loss. Valuation, $15,000.

November 16.—One of the crew on fishing steamer *A. A. C. Tessler* fell overboard when steamer was about 5 miles east-northeast of Waukegan Harbor and was drowned.

December 5.—Fire was discovered on steamer *J. Emery Owen* when about 4 miles out from Manitowoc, Wis., en route to Buffalo, N. Y. With assistance of steamers *Hyacinth*, *George Burnham*, and *Ann Arbor No. 1* steamer was towed to Sturgeon Bay Ship Canal and fire extinguished. Steamer sunk in 18 feet of water. No one hurt and no lives lost. Estimated damage, $20,000.

December 23.—One of the firemen on steamer *Nyack* was found dead in fire hold. Was discovered when steamer was about 40 miles off from Milwaukee. Report of cause, heart failure.

LOCAL DISTRICT OF PORT HURON, MICH.

1903.

April 7.—The steamer *Pilgrim* lost her rudder and shoe while bound up Lake Huron, abreast of Lexington, at 1.15 a. m., April 7. Damage estimated at $300. No lives lost.

May 20.—When the steamer *Pfohl* was 20 miles northwest of Goderich, fire broke out in her lower engine room, totally destroying vessel. Damage estimated at $40,000. No lives lost.

May 27.—While the steamer *Arabia* was bound up St. Clair River, at 10.20 p. m., near Star Island, it collided with the schooner *Crosthwaite* and sustained damages amounting to $500. No lives lost.

June 28.—While the steamer *George B. Leonard* was bound up St. Clair River, at 7.25 p. m., at head of Stag Island, she collided with the steamer *Charles Beatty*, sustaining damage amounting to $1,500. No lives lost.

June 30.—While the steamer *Thomas D. Stimson* was bound down St. Clair River, about 8.30 a. m., it caught fire and was totally destroyed. Loss, $20,000. No lives lost.

July 13.—While the steamer *Robert W. E. Bunsen* was bound down St. Clair River, at the head of Russels Island, at 6.30 p. m., she collided with the barge *Champion*, sustaining damage estimated at $500. No lives lost.

July 22.—While the steamer *Waverly* was upbound on Lake Huron, about 3.30 a. m., she collided with the steamer *Turret Court* and was sunk. Loss, $30,000. No lives lost.

July 23.—At 3.15 p. m. steamer *Brazil*, upbound on St. Clair River, near the southeast bend, collided with steamer *Northern King*, also upbound, sustaining damages estimated at $3,000. No lives lost.

July 25.—Steamer *George W. Sigison*, while lying at the dock at Port Huron, Mich., at 8 p. m., caught fire and was damaged to the extent of $2,000. No lives lost.

August 7.—While the steamer *Metropole* was bound down Saginaw Bay, at 10 p. m., she sprang a leak and foundered. Loss, $10,000. No lives lost.

August 23.—While the steamer *Frontenac* was upbound on Lake Huron, about 10 a. m., a deck hand named J. B. Kelley jumped overboard and was drowned.

September 15.—Steamer *Olympia* stranded on Thunder Bay Island, in a dense fog, at 10 p. m., and was damaged to the extent of $3,500. No lives lost.

October 9.—The steamer *John N. Glidden* collided with the barge *Magna* in the St. Clair Flats ship canal, at 9 a. m., and is a total loss. Damage, $40,000. No lives lost.

October 26.—Steamer *Columbia*, while crossing Saginaw Bay, at 9 a. m., sprang a leak and was beached, sustaining damages estimated at $1,000. No lives lost.

November 1.—Steamer *John Ericsson*, while upbound on St. Clair River, collided with the barge *Whitworth* and steamer *Crescent City*, sustaining damage estimated at $1,000. No lives lost.

November 12.—While the motor vessel *George R. Durkee* was crossing Saginaw Bay, about 8.30 a. m., a sailor named A. McCrea fell overboard and was drowned.

November 17.—About 8.40 a. m., while the steamer *Minnesota* was upbound on St. Clair River abreast of Grand Point, she was destroyed by fire. Loss, $30,000. No lives lost.

November 18.—Steamer *Fred Pabst*, while downbound on St. Clair River, at 1 a. m., collided with the sunken steamer *Minnesota* and was damaged to the extent of $5,000. No lives lost.

November 30.—While the steamer *A. W. Colton* was working on the wreck of the steamer *John N. Glidden*, 11.45 a. m., the towline slipped, striking William Campbell, the steward, killing him instantly.

C. H. WESTCOTT,
Supervising Inspector, Eighth District.

The SUPERVISING INSPECTOR-GENERAL,
Washington, D. C.

NINTH DISTRICT.

STEAMBOAT-INSPECTION SERVICE,
OFFICE OF U. S. SUPERVISING INSPECTOR,
Cleveland, Ohio, December 31, 1903.

SIR: In compliance with the provisions of section 4410, Revised Statutes, I submit the following report of the general business transacted in the ninth supervising district during the year ended December 31, 1903:

Vessels inspected, added to service, etc.

Local district.	Inspected.		New vessels added to service.		Gone out of service.		Gone into other districts.	
	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.	No.	Gross tonnage.
Cleveland, Ohio	232	428,375	16	63,978	2	1,266		
Buffalo, N. Y	388	354,775	19	5,411	11	646	93	140,435
Burlington, Vt	47	4,872	2	1,205	6	1,901		
Oswego, N. Y	156	31,123	4	484	7	525	12	6,555
Toledo, Ohio	108	53,893	7	11,817				
Total	931	873,038	48	82,895	26	3,738	105	146,990
Total in previous year	941	770,083	38	71,014	14	7,758	94	115,233
Decrease	10					4,020		
Increase		102,955	10	11,881	12		11	31,757

Boilers inspected.

Local district.	Number inspected.	Number defective.	Number condemned.	Defects in boilers and attachments.				
				Sheets.	Steam and mud drums.	Steam pipes.	Flues and tubes.	Boiler heads.
Cleveland, Ohio	412	34	1					
Buffalo, N. Y	499	44						
Burlington, Vt	52	1	1					
Oswego, N. Y	173	13	5					
Toledo, Ohio	148	16						
Total	1,284	108	7					
Total in previous year	1,328	76	4					
Decrease	44							
Increase		32	3					

Officers licensed.

Local district.	Steam and other motor vessels.							Sail vessels and barges.		Total.
	Masters.	Masters and pilots.	Mates.	Mates and pilots.	Pilots.	Joint pilots and engineers.	Engineers.	Masters.	Chief mates.	
Cleveland, Ohio	9	14			36	1	63			123
Buffalo, N. Y		19			78	6	121			224
Burlington, Vt		2			21	3	17			43
Oswego, N. Y	15				29	1	21			66
Toledo, Ohio		4			24		14			42
Total	24	39			188	11	236			498
Total previous year	3	695			317	27	1,488			3,060
Decrease		656			629	16	1,252			2,533
Increase	21									

Violations of the steamboat laws.

Local district.	Investigations.					Appeals.			
	Cases investigated.	Dismissed.	Licenses suspended.	Licenses revoked.	Cases reported to district attorney and to chief officers of customs.	Number of appeals.	Decisions revoked.	Decisions modified.	Decisions sustained.
Cleveland, Ohio	1		1		2	1			1
Buffalo, N. Y	4		1		2	1		1	
Burlington, Vt					1				
Oswego, N. Y					1				
Toledo, Ohio					1				
Total	5		2		7	2		1	1
Total previous year	9		6	1	3	4	3		1
Decrease	4		4	1		2	3		
Increase					4			1	

Expenditures during the year ended December 31, 1903.

District.	Salaries.	Traveling expenses.	Incidentals.	Total.
Supervising inspector, ninth district	$3,000.00	$387.17	$4.85	$3,392.02
Cleveland, Ohio	5,200.00	716.20	10.20	5,926.40
Buffalo, N. Y.	9,900.00	645.40	215.02	10,760.42
Burlington, Vt.	2,400.00	196.60	3.00	2,599.60
Oswego, N. Y.	4,600.00	756.80	4.50	5,361.30
Toledo, Ohio	4,000.00	336.70	9.25	4,345.95
Aggregate	29,100.00	3,038.87	246.82	32,385.69

Samples of steel and iron tested for material to be used in marine boilers in the ninth district for the year ended December 31, 1903.

Local district.	Whole number tested.	Samples of steel.	Samples of iron.	Steel failed in tensile strength.	Iron failed in tensile strength.	Steel failed in reduction of area.	Iron failed in reduction of area.	Failed in elongation.
Cleveland, Ohio	9	9	.....	.....	.....	2	.....	3
Buffalo, N. Y.	9	9	.....	3	.....	.....	.....	.....

MISCELLANEOUS.

In addition to the regular annual inspections, the following-mentioned boilers were inspected on United States Government steamers and in United States Government building during the year ended December 31, 1903:

Local inspection district.	Name of steamer or building.	Port where inspected.	Date inspected.	Number of boilers inspected.
	STEAMERS.			
Buffalo, N. Y.	Warrington	Buffalo, N. Y	Apr. 11	.....
Do	do	do	July 13	.....
Do	Gen. John M. Wilson	do	July 28	.....
	BUILDING.			
Cleveland, Ohio	Fog-signal station	Ashtabula, Ohio	Mar. 31	.....

CASUALTIES, VIOLATIONS OF LAW, AND INVESTIGATIONS.

LOCAL DISTRICT OF CLEVELAND, OHIO.

1903.

April 30.—While steamer *George T. Hope* was lying at her dock in Cleveland Harbor, Alexander Robertson, a seaman on said vessel, was missed. A search was made and his body found in the river. While not positively known, it is thought by the officers of the vessel, on account of the peculiar actions of the man, to be suicide.

May 15.—Steamer *Empire State*, of Cleveland, Ohio, while on Lake Erie, near Cleveland, Ohio, broke her outboard shaft; cause unknown. Estimated damage, $1,200. No person injured.

June 13.—Steamer *Charles H. Davis*, of Saginaw, Mich., 390 gross tons, foundered in a heavy sea on Lake Erie near Cleveland Breakwater. The master of the vessel was drowned. The steamer is considered a total loss. Estimated damage, $8,000.

July 18.—Freight steamer *Alvah S. Chisholm, jr.*, 435 gross tons, while lying at her dock in Cuyahoga River, caught fire from the explosion of a lamp in the engine room. Estimated damage, $3,000. No person injured.

August 3.—The master of the tug *Quest* filed complaint that on said date, while passing tug *Marguerite* on the Cuyahoga River, the master of the *Marguerite*

spoke to him in an abusive and insulting manner, and did not observe the pilot rules. An investigation was held on August 25. The master of the tug *Marguerite* pleaded guilty. His pilot license was thereupon suspended for 60 days.

August 11.—Towing steamer *Henry*, of Cleveland, Ohio, 30 gross tons, while on Lake Erie, off Cleveland, Ohio, began to leak. She was headed for the shore and beached. No damage to boat. No person injured.

August 20.—Steamer *Queen of the West*, of Fairport, Ohio, 876 gross tons, while on Lake Erie, off Fairport, Ohio, in a heavy sea, which had been running five hours, sprank a leak. Her pumps could not keep her clear. Steamer *Codorus* came alongside and took all of the crew of the *Queen of the West* safely on board. Steamer *Queen of the West* sunk and was a total loss, estimated at $20,000.

September 11.—While steamer *Lakeside*, of Sandusky, Ohio, 285 gross tons, was en route from Cleveland to Sandusky, Ohio, the boilers became disabled through splitting of several return bends. The fireman was slightly burned. Steamer was towed to Sandusky for repairs. Damage to boiler $20.

September 21.—About midnight a male passenger on board of the steamer *City of the Straits* was seen to stagger, apparently from intoxication, and fall overboard when steamer was off Pelee Island, Lake Erie. The *City of the Straits* was immediately rounded to, a lifeboat lowered, and searchlight used, but no trace of the man could be found.

November 23.—Steamer *Portage*, 1,608 gross tons, while on Lake Erie, 12 miles west of Fairport, Ohio, encountered a heavy sea and gale of wind, breaking the ship's arches and doing material damage to steamer. She was towed to Cleveland, Ohio. Estimated loss, $30,000. No person injured.

November 27.—Fishing steamer *Enterprise*, of Cleveland, Ohio, 21 gross tons, caught fire while lying at her dock on Cuyahoga River, and was damaged to the amount of about $400. Cause of fire, unknown.

LOCAL DISTRICT OF BUFFALO, N. Y.

1903.

February 18.—In the night fire broke out on steamer *Charlotte*, which was laid up for the winter in the Genesee River, at Charlotte, N. Y., and totally destroyed the vessel. Loss, $3,000.

April 24.—About 9.30 p. m. steamer *Walter Vail*, while entering Buffalo Harbor, ran into the stern of the steamer *George J. Gould*, which was moored at a dock. Damage to steamer *Walter Vail*, $400; to steamer *George J. Gould*, $3,000.

April 25.—About 8 p. m., while steamer *Charles S. Parnell* was making a landing opposite the city elevator, watchman Charles Chamberlain, in attempting to get a line out, fell into the river and was injured in some manner. He died in a hospital on the same day.

June 8.—About 3 a. m. steamer *Niagara*, en route to Buffalo, ran aground during foggy weather near Stony Point. Cargo lightered and vessel released. Damage, $1,000.

June 23.—About 3 a. m. steamer *Chemung* and tug *O. W. Cheney* collided on Lake Erie near Point Abino, Canada, sinking latter vessel and drowning three of the crew. Case investigated June 24–26; decision July 6, suspending for 6 months the license of James Ward, first-class pilot of steamer *Chemung*, for violation of pilot rules I and V. Decision modified August 3, by supervising inspector, from 6 months to 1 month.

July 9.—About 8.50 p. m., while steamer *Crystal* was en route from Buffalo to Crystal Beach, paddle wheel became disabled and steamer was towed back to Buffalo by a tug. Damage, $800.

July 18.—About midnight, while steamer *Darius Cole* was entering Buffalo Harbor, deck hand, while in the act of lowering a fender, fell overboard and was drowned.

July 24.—About 10.15 p. m., while steamer *Mahoning* was leaving Buffalo, she took a sheer and struck the fuel scow *Shawmut*, which was moored outside of steamer *Pawnee* at Lackawanna coal dock. The scow drifted around the end of the dock and sunk. No damage to the *Mahoning*.

August 14.—While steamer *Iroquois* was leaving Dunkirk for Buffalo she struck an obstruction and damaged rudder, which was lost shortly before reaching Buffalo. Damage, $3,400.

August 18.—About midnight fire broke out on steamer *Tam O'Shanter*, which was moored at Tonawanda dock. Pilot house, main deck, and boiler room were destroyed. Damage, $500.

August 20.—About 8.30 p. m., as steamer *Darius Cole*, en route to Crystal Beach, was about 1,500 feet from the dock at that point a small sailboat, containing four people, attempted to cross bow of steamer, was struck and overturned. A boat was lowered and three persons were rescued, the fourth being drowned. The night was very dark, and there was no light on the sailboat to indicate its presence.

August 20.—Steam yacht *Echo* reported to United States attorney for violation of certificate of inspection by carrying merchandise.

August 26.—During the night tug *Oneida*, which was moored at dock in Tonawanda Harbor, with the tug *Pallister* alongside, sunk from some unknown cause. Damage, $70. The captain reports: "I had been around her all the day before and she was not leaking. The only thing I can account for the cause of the sinking is that the *Pallister* must have run on top of her rail and listed her over so that she filled through siphon pipe or some open seams; but when we raised her we found no leaks."

August 27.—At night, as steamer *Dorothy* and barge *Ideal* were approaching dock at Austin street, Black Rock Harbor, a naphtha launch towing another one, both containing four persons, attempted to cross bow of steamer and was struck. The first naphtha launch was overturned and three persons thrown into the water, but were promptly rescued by the crew of the steamer. The night was very dark and the naphtha boats had no signal lights.

September 2.—About 7 a. m. Fireman William McKenna, of the steamer *W. I. Babcock*, was scalded to death by the bursting of steam pipe while the tug was moored at the foot of Washington street. Case investigated September 3 and 4; and from the evidence it appears that he was responsible for the accident.

September 14.—Charges were filed against Asa R. Booth, master of towing steamer *Tonawanda*, for alleged violation of section 4450, Revised Statutes. Case investigated September 21, and evidence insufficient to sustain charges. Steamer reported to the collector of customs for carrying passengers.

September 21.—While tug *Charles S. Parnell* was towing a steamer around Little Island, Tonawanda Harbor, the tug capsized. Damage, $200.

October 7.—About 8.15 p. m., while steamer *Mary McLane* was moored at Sour Spring Grove Dock, Niagara River, fire broke out and totally destroyed the steamer. Loss, $6,000.

October 12.—About 4 a. m. fire broke out in boiler room of steamer *Peter D. Hershey*, which was moored at O'Neil's dry dock, destroying upper works. Loss, $1,200.

October 18.—While steamer *Silver Spray* was in dry dock at Erie Basin, Buffalo Harbor, fire was discovered in pilot house, which destroyed upper works. Loss, $3,000.

October 19.—About 2.30 p. m. steamer *William Castle Rhodes* was proceeding through Buffalo Harbor in tow of two tugs, and when near Michigan Street Bridge the steamer struck the spiles on the abutment and broke quadrant and wheel wire. Damage, $500.

November 16.—About 8 a. m., while steamer *Orion* was at Frontier elevator, Buffalo Harbor, Chief Engineer Eugene Murdock apparently misstepped off the between-deck beams and fell into lower hold, sustaining injuries which resulted in his death soon after.

November 28.—About 4.30 p. m., while steamer *China* was winding around at West Shore Dock, an explosion occurred on a scow in the vicinity and smokestack of scow blew on to stern of steamer *China*, striking Second Mate Adolph Langnor, injuring his back seriously. No damage to steamer *China*.

December 4.—About 6.30 p. m., while moored at Eldorado Dock, in the Niagara River, fire broke out in boiler room of steamer *Embury*, totally destroying vessel and cargo. Loss, $14,500.

LOCAL DISTRICT OF BURLINGTON, VT.

1903.

April 3.—Steamer *J. C. L.* caught fire and was a total loss. Caused by accidental overturning of a lamp while an attempt was being made to make the boat secure in the boathouse.

September 9.—Pleasure steamer *Wa Wa* caught fire and was a total loss. The owner cast off the line, supposing the engineer was aboard. The boat moved with the current and caught fire. Damage, $5,000.

LOCAL DISTRICT OF OSWEGO, N. Y.

1903.

June 5.—On the evening of June 5 and morning of 6th the steamer *Empire State*, laid up in ordinary at the dock in Kingston, Ontario, was destroyed by fire.

June 21.—About 8 a. m., during a fog, the steamer *St. Joseph*, en route from Toronto to Oswego, ran on Ford's Shoal, Lake Ontario. Vessel was hauled off same day with the assistance of tugs. No damage except a bent shoe. Vessel docked, calked, and shoe straightened.

July 15.—In the afternoon, the steamer *St. Lawrence*, en route Alexandria Bay to Clayton, river St. Lawrence, broke the working beam of engine, resulting in the breaking of cylinder cover and other damage to machinery. No one injured.

August 19.—Steamer *Captain Visger* was reported for carrying an excess of passengers, violation of section 4465, Revised Statutes. Subsequently paid the fine.

August 20.—About 2.30 a. m., while lying at the dock at Ogdensburg, N. Y., the steamer *Massena* was destroyed by fire. Origin of fire unknown. Loss, $10,000.

August 25.—Early in the morning, while lying at Thousand Island Park, river St. Lawrence, the steamer *Myrtle* was destroyed by fire, which was caused by the explosion of a lantern. Damage, $1,500.

August 29.—About 7.20 a. m. steamer *Islander*, en route from Alexandria Bay to Clayton, broke strap of high-pressure connecting rod, also high-pressure cylinder head. Towed to Kingston, Ontario, for repairs. No person injured.

LOCAL DISTRICT OF TOLEDO, OHIO.

1903.

March 18.—4 a. m. steamer *Grace M.*, of Lorain, 12 gross tons, while lying at Vermilion, Ohio, was damaged by fire to the extent of about $125.

June 3.—Freight steamer *H. Houghton*, of Detroit, Mich., 210 gross tons, was being navigated on Lake Erie in the vicinity of Kelley Island, Ohio, after the expiration of her certificate of inspection. Case was reported to collector of customs and district attorney.

September 11.—While the passenger steamer *Lakeside*, of Sandusky, Ohio, 285 gross tons, was en route from Cleveland to Sandusky, Ohio, the boilers became disabled through the splitting of several return bends. The fireman was slightly burned. Steamer was towed to Sandusky for repairs. Damage to boiler, $20.

September 15.—At 7 a. m. steamer *Champion*, of Detriot, Mich., 263 gross tons, was burned while lying at anchor at Put-in-Bay, Ohio. Cause of fire, unknown. Loss, $20,000. No lives lost.

September 27.—Steamer *Meriden*, of Buffalo, N. Y., 845 gross tons, was burned while lying at her dock at Toledo, Ohio. The supposition is that the fire was caused by the explosion of a lamp near the oil room. The vessel was a total loss. No lives lost.

October 7.—Between 4 and 5 p. m. steamer *Adventure*, of Port Huron, Mich., 14 gross tons, while lying at Kelley Island, Ohio, was destroyed by fire, together with her cargo of lime. Damage to vessel, $4,500. Cause of fire unknown. No lives lost.

November 12.—Steamer *Luzon*, 3,582 gross tons, while entering Toledo Harbor, collided with the draw of the Wheeling and Lake Erie Railroad Bridge. Damage to steamer, about $1,000.

JAMES STONE,
Supervising Inspector, Ninth District.

The SUPERVISING INSPECTOR-GENERAL,
Washington, D. C.

TENTH DISTRICT.

STEAMBOAT-INSPECTION SERVICE,
OFFICE OF U. S. SUPERVISING INSPECTOR,
New Orleans, La., December 31, 1903.

SIR: In compliance with the provisions of section 4410, Revised Statutes, I submit the following report of the general business transacted in the tenth supervising district during the year ended December 31, 1903:

Vessels inspected, added to service, etc.

Local district.	Inspected.		New vessels added to service.		Gone out of service.		Gone into other districts.	
	Number.	Gross tonnage.	Number.	Gross tonnage.	Number.	Gross tonnage.	Number.	Gross tonnage.
New Orleans, La	379	157,279	29	8,307	9	1,271	19	31,474
Apalachicola, Fla	81	8,544	2	146	2	181	1	61
Galveston, Tex	106	94,275	10	9,465	2	6	1	192
Mobile, Ala	168	25,040	20	3,055	1	3	15	2,462
Total	734	285,138	61	20,973	14	1,461	36	34,189
Total in previous year	689	246,767	51	3,667	18	1,682	40	42,009
Decrease					4	221	4	7,820
Increase	45	38,371	10	17,306				

Boilers inspected.

Local district.	Number inspected.	Number defective.	Number condemned	Defects in boilers and attachments.				
				Sheets.	Steam and mud drums.	Steam pipes.	Flues and tubes.	Boiler heads.
New Orleans	614	28		8	7	3	153	5
Apalachicola, Fla	92	2	1	2				
Galveston, Tex	135	2	1					
Mobile, Ala	174	37	14	3			713	6
Total	1,015	69	16	13	7	3	866	11
Total previous year	933	46		29	10		584	8
Decrease				16	3			
Increase	82	23	16			3	282	3

Officers licensed.

Local district.	Steam and other motor vessels.							Sail vessels and barges.		Total
	Masters.	Masters and pilots.	Mates.	Mates and pilots.	Pilots.	Joint pilots and engineers.	Engineers.	Masters.	Chief mates.	
New Orleans, La	13	85	63		110	11	222	2	4	510
Apalachicola, Fla	2	25	5		26		36			94
Galveston, Tex	2	22	5		48	7	61	1		146
Mobile, Ala	10	19	5		40	10	86	1		171
Total	27	151	78		224	28	405	4	4	921
Total previous year	108	616	44		518	25	1,049	4	1	2,365
Decrease	81	465			294		644			1,444
Increase			34			3			3	

Violations of the steamboat laws.

Local district.	Investigations.					Appeals.			
	Cases investigated.	Dismissed.	Licenses suspended.	Licenses revoked.	Cases reported to district attorney and to chief officers of customs.	Number of appeals.	Decisions revoked.	Decisions modified.	Decisions sustained.
New Orleans, La	4	.....	4	.....	4	.....	.....	.....	.....
Apalachicola, Fla	1	.....	1	.....	.....	.....	.....	.....	.....
Galveston, Tex	2	.....	2	.....	1	.....	.....	.....	.....
Mobile, Ala	2	1	1	.....	.....	5	.....	1	4
Total	9	1	8	.....	5	5	.....	1	4
Total previous year	9	1	10	.....	4	9	.....	.....	9
Decrease	.....	.....	2	.....	.....	4	.....	.....	5
Increase	.....	.....	.....	.....	1	.....	.....	1	.....

Expenditures during the year ended December 31, 1903.

District.	Salaries.	Traveling expenses.	Incidentals.	Total.
Supervising inspector tenth district	$3,000.00	$827.65	$8.00	$3,835.65
New Orleans, La	9,951.70	2,402.33	93.87	12,447.90
Apalachicola, Fla	2,400.00	1,218.90	46.24	3,665.14
Galveston, Tex	2,309.99	922.36	5.50	3,237.85
Mobile, Ala	4,600.00	989.10	142.65	5,731.75
Aggregate	22,261.69	6,360.34	296.26	28,918.29

Samples of steel and iron tested for material to be used in marine boilers in the tenth district during year ended December 31, 1903.

Supervising district.	Whole number tested.	Samples of steel.	Samples of iron.	Steel failed in tensile strength.	Steel failed reduction of area.	Iron failed reduction of area.	Failed in elongation.
Tenth	62	62	.....	3	.....	.....	.....

MISCELLANEOUS.

In addition to the regular annual inspections the following boilers were inspected on United States Government steamers during the year ended December 31, 1903:

Local inspection district.	Name of steamer.	Port where inspected.	Date inspected.	Number of boilers inspected.
New Orleans, La	Gen. A. A. Humphreys	New Orleans, La	July 15	1
Do	Gen. John Newton	do	do	1
Do	General Gillespie	do	Aug. 10	1
Do	General Abbott	do	Sept. 28	1
Do	Pansy	do	Oct. 10	1
Do	Chere Amie	do	Dec. 7	1
Apalachicola, Fla	Laurel	Apalachicola, Fla	June 20	1
Mobile, Ala	Black Warrior	Mobile, Ala	Sept. 9	2
Do	Maud	do	Sept. 23	1
Do	Tombigbee	do	do	3
Do	Arbutus	do	Nov. 4	2
Do	Rossell	do	Dec. 31	1

CASUALTIES, VIOLATIONS OF LAW, AND INVESTIGATIONS.

LOCAL DISTRICT OF NEW ORLEANS, LA.

1902.

November 22.—(Reported January 8, 1903). A collision occurred between the steamer *Alma* and the steamer *Echo* towing barges *Pendleton* and *Texas No. 1*, resulting in the sinking of the steamer *Alma*. No lives lost. The steamer *Alma* was a total loss; valued at $20,000. Value of cargo, unknown.

1903.

January 4.—While the steamer *Ruth* was lying at landing in the harbor of New Orleans a fire started between the top of boiler and boiler deck, cause unknown, and burned the cabin to the deck, damaging the vessel to the amount of $2,500. No lives lost. Boat will be repaired.

January 7.—During a storm and high wind the steamer *W. T. Scovell*, en route on Red River, near Alexandria, La., was blown into the railroad bridge of the Iron Mountain Railroad, knocking over the smokestacks and stages and otherwise damaging the boat to the extent of $800. No lives lost.

January 17.—While the steamer *Earl* was lying tied up near the mouth of the Tangipihoa River she sunk and capsized. No apparent cause for the disaster is reported except water going down while steamer lay close to bank, causing her to be thrown over. Steamer is a total loss, amounting to $1,600. No cargo. No lives lost.

February 1.—While the railroad transport steamer *Delta* was loading railroad cars at Vicksburg, Miss., on what is termed the "Incline" on the Mississippi River bank, 7 cars broke loose at the head of the incline and ran down and through the boat *Delta*, throwing 1 car into the river. This 1 car contained 4 people and an emigrant outfit of stock, wagons, and household goods. Two men and 2 boys were drowned by the car turning over before assistance could be rendered. The car was landed about 200 feet below the stern of the boat.

February 10.—J. W. C. Mead, master and pilot on inland waters, was suspended for 30 days from the use of his license, for violation of rules 1 and 2, pilot rules of western rivers, said suspension resulting from an investigation held by the supervising inspector of the tenth district, Capt. John A. Cotter, on January 2 and 6, 1903, of the case of a collision between steamer *Alma* and steamer *Echo* towing barges. Said investigation was held by the supervising inspector during the absence of Local Inspector of Boilers W. Youngblood, owing to sickness.

February 10.—C. H. Eldridge, master on inland waters, was suspended for 30 days from the use of his license, for ignorance and violations of rules 1 and 2, pilot rules of western rivers, said suspension resulting from an investigation held by the supervising inspector of the tenth district, Capt. John A. Cotter, on January 2 and 6, 1903, of the case of a collision between steamer *Alma* and steamer *Echo*, towing barges, said investigation being held by the supervising inspector during absence of the local inspector of boilers, W. Youngblood, owing to sickness.

March 1.—The steamer *Valley Queen*, on the Mississippi River near Bruinsburg Landing, took fire in her hold; cause, unknown. Steamer burned to a total loss, as follows: Boat $20,000; cargo, $50,000; total, $70,000. No lives lost.

March 2.—While the steamer *Maggie* was backing out of Simmons Landing, Mississippi, on the Yazoo River, she struck a snag and sunk rapidly. J. H. Thompson, clerk of the steamer, was drowned. Vessel estimated to be a total loss, amounting to $4,000. Loss to cargo estimated to be one-half, amounting to $750. Total, $4,750.

March 9.—The steamer *W. M. Wood* with pump boat *Willie G.* while lying fast to the landing at New Orleans, was run into by the railroad transfer steamer *L. S. Thorne*, the latter attempting to make a landing in a thick fog. Damage to steamer *W. M. Wood* and pump boat *Willie G*, estimated at $1,200. No lives lost.

March 21.—While the steamship *Arkadia* was proceeding upstream in harbor of New Orleans, being caught in a swirl of the current due to extremely high water in Mississippi River, and steering gear getting out of order, the *Arkadia*

was dashed against the revenue cutter *Smith*, crushing and partly sinking the *Smith*. No lives lost. Steamer *Smith* is estimated by the Government authorities to be a total loss, amounting to $8,000. Suit has been brought by the Government authorities against the steamship *Arkadia* for said amount.

March 26.—The steamer *Greyhound*, John White, master, of Vicksburg, Miss., was reported to the United States district attorney and collector of customs at Vicksburg, Miss., for violation of section 4400, Revised Statutes, by navigating said steamer *Greyhound* under an expired certificate of inspection since November 10, 1902.

May 10.—While the steamer *H. M. Carter* was en route on the Mississippi River about 3 miles above Plaquemine, La., a colored roustabout named Will Davis was trucking a barrel of sand from aft forward when the wheel of truck struck against a piece of lumber, and the jar from same threw him overboard before help could reach him, and he was drowned.

May 10.—While the steamers *New South* and *City of St. Louis* were running excursions in the harbor of New Orleans, they collided without loss of life, but with a damage to the *New South* of about $200. The case being tried before the local inspectors, the captain (master), Frank Ottendorfer, of the *New South*, had his license suspended for 15 days, beginning with June 25, 1903, for violating rules 2 and 24 of pilot rules for western rivers, and L. A. Mahaffey, pilot of the *City of St. Louis*, had his license suspended for violating rules 2, 7, and 24 of the same rules for western rivers.

July 30.—While the steamer *Vanguard* was towing a pump boat and coal palaces in the harbor of New Orleans one of the lines parted, turned the pump boat over, and drowned the colored watchman, named Howard Osgood.

September 9.—While the steamer *W. T. Scovell* was en route between Shreveport and New Orleans she struck a hidden obstruction and sunk, but was raised and started again on September 11. No lives lost. No loss of cargo. Damage to vessel, $500.

At an unknown date in August, 1903, the steamship *George W. Kelley*, en route from Central America to New Orleans, La., encountered a hurricane which prevailed along her route, and it is evident she foundered with all on board. After being 54 days overdue a strict search was made and nothing whatever was recovered. Estimated value of vessel, $39,000; cargo, $3,000; total, $42,000. Nineteen lives were lost, as follows: Crew—John Arendt, master; J. A. Sternberg, first mate; Jas. McGie, second mate; Chas. B. Hall, chief engineer; J. B. Wolf and Marcus Englert, assistant engineers; Frank Marullo, steward; sailors, Helder Holstrom, Albert Olsen, John Ruggin, Paul Van Lange; firemen, Wm. Claffery, Chas. Carlson, C. Johnson, Chas. Gudmund, Emile Faustin, and Abraham Bard; E. Linincan, messenger; Phillip Weinberger, passenger.

December 15.—The steamer *Mattie M.* struck some hidden obstruction about 6 miles above Natchez, Miss., while en route on Mississippi River, and sunk, drowning 6 persons—crew. Value of vessel, $6,000; cargo, none; total loss, $6,000.

LOCAL DISTRICT OF APALACHICOLA, FLA.

1903.

March 2.—At 2 a. m. steamer *Bassinger*, while lying at the wharf at Punta Gorda, Fla., accidentally caught fire and was burned. Steamer total loss. No lives lost. Value, $3,000.

May 8.—On steamer *Neptune*, after leaving Port Tampa, Fla., the fusible plug in the back connection gave way. Case investigated May 10, 1903. Accident caused by the steam valve to the upper connection of water column having been closed by some unknown person. Decision: Engineer was exonerated from all blame in the case.

July 7.—The steamship *Mascotte*, while leaving the wharf at Key West, Fla., at 10.30 p. m. collided with Cuban tug *Humbert Roderques*, lying at that wharf. Collision caused by closing of exhaust valve to ram on steam reversing engine on steamship *Mascotte* and failing to reverse in time to back. Extent of damage unknown, as the tug went to sea without reporting the amount of damage.

July 11.—While the steamer *Thetis* was under way on the Suwanee River, Florida, Peter Walker, colored, chief engineer of the steamer *Thetis*, fell overboard while on the guards and was drowned, caused by heart trouble.

July 13.—Steamer *Mary Louisa*, while lying at the wharf at Port Tampa, Fla., at 9.30 a. m. was discovered on fire in hold forward. Steamers *Peerless* and *Neptune* came to the relief and put out the fire. Damage to steamer, $600.

August 5.—While the steamers *Amanda Moore* and *Neptune* were under way in the cut to Tampa Bay from the Hilsboro River at 6 p. m. steamer *Neptune* sheered from her course and ran into the tug *Amanda Moore* on port side, damaging this steamer $200.

August 24.—Steamer *Manatee*, while lying at her wharf at Tampa, Fla., at 9 p. m. accidently caught fire, burning her cabin and deck. Hull and machinery not damaged. Loss estimated at $11,000. No lives lost.

September 14.—Steamer *Eunola*, while lying at landing, Chattahoochee, Fla., accidentally caught fire at 4 p. m. and was burned. No lives lost. Steamer a total loss; value, $3,700. Loss of cargo, $1,200.

October 9.—The steamer *J. R. Sharp*, while lying at Jones Landing on Flint River Georgia, at 6 p. m. sprang a leak and sunk at the landing. No lives lost. Loss by damage to steamer, $1,000. Loss of cargo, $1,000.

November 1.—While steamer *Forest* was lying at the foot of Niger Head Shoals, on Flint River, at 10 a. m. the pilot, Adam Jackson, colored, accidentally fell overboard and was drowned.

November 2.—While steamer *Eva* was lying at Fowlers Landing, on the Brothers Tributary of the Apalachicola River, Will Grant, colored, cook on the steamer *Eva*, while dumping a barrel of water, accidentally fell overboard and was drowned.

December 21.—While the steamer *St. Lucie* was under way on Charlotte Harbor, Florida, William White, while playing, accidentally fell overboard and was drowned.

LOCAL DISTRICT OF GALVESTON, TEX.

1903.

February and March.—Charles Cutting made oath, March 28, of finding a solid plug in boiler of the steamer *J. B. Griffith*, naming Julius Rankin as engineer of said boat before he (Cutting) took charge. Will investigate at earliest opportunity.

February 6.—The steamship *El Cid*, while proceeding to sea from port of New York, collided with British steamship *Mimero*, lying at anchor between Liberty and Robins reef, caused by the breaking of eccentric of steering gear on the *El Cid*. Damage not serious, other than denting of some plates on hull of *Mimero*.

March 2.—John Hoffman, charged with having inserted experience in his application for second-class pilot's license erroneously. License has been recalled pending investigation of the matter.

April 2.—Julius Rankin, a licensed engineer, preferred charges against Charles Cutting, a licensed engineer, with being drunk on duty. Will investigate on first visit of inspection to that locality.

April 13.—At 3.27 a. m. steamship *El Rio*, bound for Galveston, during a dense fog, collided with the schooner *Margaret Ward*, the latter being at anchor about east by south, 28 miles, 8½ fathoms off Galveston bar. Schooner a total loss. Value, $60,000. Cargo, $53,000. Steamer damaged about $2,000. Three lives lost.

August 15.—While steamship *Manteo* was at anchor off bar at Brazos Santiago a strong gale came up. Ship parted her cable, ran for the bar, and grounded inside of point, off Padre Island. Port bow was stove in above main deck, and some damage sustained to upper works. All repairs not completed. Hull not damaged.

September 7.—The oil-tank steamer *City of Everett* caught on fire while alongside of the wharf at Port Arthur, Tex. Upper works were badly damaged. Vessel will be towed to Philadelphia for repairs. Amount of damage unknown.

September 8.—Steamship *Sabine*, bound for Galveston from New York, had trouble with the high-pressure piston and leaky boiler tubes.

September 9.—At 4.30 p. m. met steamship *Concho*, 30 miles from Galveston, and was towed to Galveston and had all necessary repairs made to take said steamer to New York.

October 7.—While the tug *Ida* and flatboat, with load of rice, were lying at bank tied up, flatboat caught fire; cause unknown. Same was totally destroyed and tug partially destroyed. Total loss estimated at $2,500. No lives were lost.

LOCAL DISTRICT OF MOBILE, ALA.

1903.

January 7.—Steamer *Jas. A. Carncy*, William O'Neal, master, struck a hidden obstruction at the mouth of Mobile River and was so badly damaged that her officers found it necessary to run the vessel ashore to protect the lives on board. No one injured. Damages not stated. The vessel was floated and repaired.

April 12.—While deck hand Charley Tate was engaged in trucking cotton aboard the steamer *Mary S. Blees*, his truck came in contact with the hog chain of that vessel, knocking him overboard, and he was drowned before assistance could reach him.

May 25.—John H. Remy, engineer of steamer *Native*, O. Clark, master, was reported to this office for neglect of duty, and at the investigation held by this board June 10, 1903, it was proven that he had left his engine while his vessel was under way, which action was a violation of section 4441, Revised Statutes, and in consequence of which his license was suspended for 10 days.

June 3.—R. B. Drisko, master of steamer *Josephine*, was reported to this office by his engineer, Austin Williams, for neglect of duty. The date for the investigation of this case has not been set, as Mr. Williams was called away from the city.

June 9.—Steamship *Otto*, W. F. Craft, master, was burned while laid up at her dock, Freeport, Fla. The fire is supposed to be of incendiary origin, as the vessel had been out of commission for 6 months. No lives lost. Damages not stated.

August 27.—The boiler of the steamship *Hero*, L. D. Meyers, master, gave way near the front end while the fireman was getting up steam. The break was about 1½ inches in diameter and has since been repaired. Damage not stated.

September 2.—Deck hand Colonel Jackson, of steam propeller *W. J. Bethea*, C. T. Bartee, master, was accidentally drowned while the steamer was nearing Export Landing, Tombigbee River.

December 16.—Steamer *Zoe*, of Mobile, Ala., in command of P. L. Dotson, collided with a railroad bridge on Bayou Sara, damaging the vessel to the amount of $150. No lives lost or persons injured. The investigation of this case will be made in the near future.

E. E. Crabtree, chief engineer of steamer *Pensacola*, of Pensacola, Fla., was reported to this office by Capt. John Leech, former master of that vessel, for having used the donkey boiler of said vessel after the same had been discontinued by the local inspectors at New York, on their annual inspection, September 23, 1901. The case was investigated at Pensacola, Fla., December 14, 1903, and, from the evidence given, we were unable to find anything that would sustain the charges of Captain Leech. With this fact in view we exonerated Mr. Crabtree.

JOHN A. COTTER,
Supervising Inspector, Tenth District.

The SUPERVISING INSPECTOR-GENERAL,
Washington, D. C.

Statement embracing the various matters and occurrences relating to vessels navigated under the acts of Congress relating to vessels that have been acted upon by the several boards of local and supervising inspectors for the year ended December 31, 1903.

	First district.					Second district.									
	San Francisco, Cal.	Portland, Oreg.	Seattle, Wash.	Juneau, Alaska.	Total.	New York, N. Y.	Boston, Mass.	Philadelphia, Pa.	New London, Conn.	Albany, N. Y.	Portland, Me.	Providence, R. I.	Bangor, Me.	New Haven, Conn.	Total.
Domestic steamers granted certificates of inspection	304	155	312	208	979	1,252	295	336	134	196	155	187	91	120	2,766
Domestic steamers refused certificates of inspection	.....	.....	.....	2	2	.....	1	.....	1	.....	1	.....	.....	.....	3
Domestic vessels propelled by gas, fluid, naphtha, or electric motors granted certificates of inspection	31	3	6	4	44	13	10	3	4	.....	4	4	.....	12	50
Domestic sail vessels, barges, etc., granted certificates of inspection	99	8	62	5	174	68	46	34	2	6	40	16	13	.....	225
Foreign steamers granted certificates of inspection	11	3	12	1	27	178	21	13	.....	.....	.....	.....	2	.....	214
Total number of vessels of all kinds granted certificates of inspection	445	169	392	218	1,224	1,511	372	386	140	202	199	207	106	132	3,255
Total number of vessels of all kinds refused certificates of inspection	.....	.....	.....	2	2	.....	1	.....	1	.....	1	.....	.....	.....	3
Gross tonnage of domestic steamers inspected	275,710	34,801	113,482	27,200	451,193	546,028	62,020	181,186	40,578	36,055	26,482	59,096	5,485	18,754	975,684
Gross tonnage of domestic vessels propelled by gas, fluid, naphtha, or electric motors inspected	2,001	114	273	287	2,675	486	882	115	112	.....	259	107	.....	330	2,291
Gross tonnage of domestic sail vessels, barges, etc., inspected	121,610	8,805	73,805	4,715	208,935	62,961	67,894	46,098	2,420	1,684	57,869	23,820	15,793	.....	278,539
Gross tonnage of foreign steamers inspected	50,387	14,987	47,745	192	113,311	1,097,811	167,528	62,992	.....	.....	.....	.....	491	.....	1,328,822
Total gross tonnage of all vessels inspected	449,708	58,707	235,305	32,394	776,114	1,707,286	298,324	290,391	43,110	37,739	84,610	83,023	21,769	19,084	2,585,336
New vessels added to service	31	18	33	.....	82	40	11	46	7	13	22	9	6	4	158
Vessels gone out of service	6	4	4	4	18	4	2	6	2	4	8	6	1	5	33
Vessels gone into other districts	17	5	.....	1	23	56	.....	67	35	21	40	29	13	23	284
Gross tonnage new vessels added to service	19,902	2,704	7,563	.....	30,169	151,513	16,892	71,952	1,436	1,091	21,051	284	3,247	218	267,684
Gross tonnage gone out of service	3,108	525	1,364	611	5,608	1,791	83	2,938	105	985	3,359	2,811	12	263	12,297

Gross tonnage gone into other districts	31,045	885	.....	97	32,027	50,876	.....	104,082	11,375	1,296	35,794	7,689	13,544	7,709	235,365
Steel boilers (riveted plates):															
Inspected	635	126	323	222	1,306	2,151	339	469	144	180	139	162	69	94	3,747
Found defective	11	.....	8	3	22	4	36	4	.....	20	10	6	3	5	88
Gave way under hydrostatic pressure	11	.....	.....	.....	11	.....	8	6	4	.....	.....	1	.....	5	24
Iron boilers (riveted plates):															
Inspected	60	20	31	6	117	371	59	104	14	41	10	18	11	18	646
Found defective	3	.....	2	.....	5	18	14	.....	1	9	2	.....	1	1	46
Gave way under hydrostatic pressure	.....	.....	.....	.....	.....	8	1	.....	.....	.....	.....	.....	.....	.....	9
Coil and pipe boilers:															
Inspected	19	12	83	48	162	246	92	40	48	14	41	68	21	31	601
Found defective	1	.....	3	.....	4	1	2	.....	.....	2	1	1	.....	.....	7
Gave way under hydrostatic pressure	1	.....	3	.....	4	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Boilers condemned from further use:															
Steel (riveted plates)	1	.....	.....	.....	1	.....	8	.....	1	.....	.....	.....	.....	.....	9
Iron (riveted plates)	.....	.....	.....	.....	.....	.....	1	.....	.....	2	.....	.....	.....	1	4
Coil and pipe	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2
Violations of the law:															
Investigations by local boards	23	5	3	4	35	31	5	9	1	1	.....	1	.....	3	51
Cases reported by local boards to district attorneys and chief officers of customs	1	3	.....	1	5	11	1	8	1	1	.....	.....	1	1	24
Appeals taken from the decisions of the local boards	5	4	.....	.....	9	10	.....	1	.....	.....	.....	.....	.....	.....	11
Accidents causing loss of life by explosions or accidental escape of steam	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Steamers wrecked or foundered	4	2	7	1	14	.....	1	5	.....	1	.....	.....	.....	2	9
Accidents:															
By collision	19	3	4	1	27	127	11	15	2	2	3	.....	.....	2	162
By fire	3	1	9	2	15	10	2	6	2	5	2	1	.....	1	29
By snags, sinking, and grounding	2	4	.....	.....	6	11	.....	.....	.....	.....	.....	.....	.....	.....	11
Lives lost:															
By explosions or accidental escape of steam	.....	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
By wrecked steamers	19	.....	.....	.....	19	.....	.....	10	.....	.....	.....	.....	.....	.....	10
By collision	.....	1	1	.....	2	5	.....	11	6	1	.....	.....	.....	6	29
By fire	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1
By accidental drowning	13	4	.....	1	18	9	1	.....	.....	.....	1	.....	.....	.....	11
From miscellaneous causes	6	.....	.....	6	12	5	.....	4	.....	.....	.....	.....	.....	.....	9

Statement embracing the various matters and occurrences relating to vessels navigated, etc.—Continued.

	First district.					Second district.									
	San Francisco, Cal.	Portland, Oreg.	Seattle, Wash.	Juneau, Alaska.	Total.	New York, N. Y.	Boston, Mass.	Philadelphia, Pa.	New London, Conn.	Albany, N. Y.	Portland, Me.	Providence, R. I.	Bangor, Me.	New Haven, Conn.	Total.
Passengers lost:															
By wrecked steamers	8				8			8							8
By collision			1		1				1						1
By accidental drowning	7	1			8										
From miscellaneous causes	3	1			4	5		2							7
Lives saved by means of life-saving appliances required by law	150				150						1				1
Passengers carried by steamers	25,211,434	1,324,275	1,801,933	97,192	28,434,834	204,204,938	23,037,424	29,104,915	1,174,600	3,196,113	2,693,538	2,348,345	756,195	422,135	266,938,203
Amount of property lost:															
By explosion			$3,800		$3,800										
By wreck or founder	$201,000	$21,000	$28,000	$6,000	$256,000	$30,000						$26,000			$56,000
By collision	$17,000	$775	$6,000	$150	$23,925	$43,900	$8,100		$23,000		$150				$75,150
By fire	$31,000	$500	$59,200	$20	$90,720	$6,800	$4,000		$15,500	$102,000	$2,800	$3,000			$134,100
By snags, sinking, and grounding	$250	$3,200			$3,450	$5,500									$5,500
Original licenses issued since last annual report	501	71	319	77	968	750	283	149	72	52	64	98	31	54	1,553
Received original license:															
Masters of steam and other motor vessels	22	2	24	2	50	27	26	6			2				61
Masters and pilots of steam and other motor vessels	48	2	29	3	82	138	17	19	9	1	5	4	5	2	200
Mates of steam vessels	80	17	63	8	168	74	35	11	2		2	1			125
Mates and pilots of steam vessels				2	2	5	2	3							10
Pilots of steam and other motor vessels	34	13	31	13	91	149	56	22	30	11	15	26	12	22	343
Joint pilots and engineers of steam vessels		1	9	2	12	3	5	3	2	8	4	3			23
Engineers of steam and other motor vessels	240	85	106	47	428	333	114	77	29	36	25	58	13	29	714
Masters of sail vessels and barges	49		28		77	13	13	6		1	7	1		1	42
Chief mates of sail vessels and barges	28	1	29		58	8	15	2			4	5	1		35

| | | |

Statement embracing the various matters and occurrences relating to vessels navigated, etc.—Continued.

	Third district.						Fourth district.	Fifth district.			Sixth district.				
	Norfolk, Va.	Baltimore, Md.	Charleston, S. C.	Savannah, Ga.	Jacksonville, Fla.	Total.	St. Louis, Mo.	Dubuque, Iowa.	Duluth, Minn.	Total.	Louisville, Ky.	Evansville, Ind.	Nashville, Tenn.	Memphis, Tenn.	Total.
Domestic steamers granted certificates of inspection	253	305	120	107	82	867	140	105	207	312	50	83	74	82	289
Domestic steamers refused certificates of inspection	.....	3	.....	1	.....	4	5	.....	.....	.....	9	6	1	.....	16
Domestic vessels propelled by gas, fluid, naphtha, or electric motors granted certificates of inspection	4	14	2	1	3	24	9	11	4	15	4	2	.....	3	9
Domestic vessels propelled by gas, fluid, naphtha, or electric motors refused certificates of inspection	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	.....
Domestic sail vessels, barges, etc., granted certificates of inspection	13	31	5	22	1	72	2	5	1	6	5	2	1	1	9
Domestic sail vessels, barges, etc., refused certificates of inspection	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Foreign steamers granted certificates of inspection	1	15	.....	1	.....	17	.....	.....	3	3	.....	.....	.....	.....	.....
Foreign steamers refused certificates of inspection	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total number of vessels of all kinds granted certificates of inspection	271	365	127	131	86	980	151	121	215	336	59	87	75	86	307
Total number of vessels of all kinds refused certificates of inspection	.....	3	.....	1	.....	4	6	1	.....	1	9	6	1	.....	16
Gross tonnage of domestic steamers inspected	52,974	129,400	12,568	30,693	7,975	233,610	29,071	9,334	180,210	189,544	11,172	10,615	8,090	10,373	40,250
Gross tonnage of domestic vessels propelled by gas, fluid, naphtha, or electric motors inspected	133	962	45	28	130	1,298	212	451	183	634	166	65	.....	109	340
Gross tonnage of domestic sail vessels, barges, etc., inspected	17,085	37,641	4,865	21,490	856	81,937	793	687	192	879	977	383	700	114	2,174
Gross tonnage of foreign steamers inspected	4,958	86,901	.....	3,169	.....	95,028	.....	.....	809	809	.....	.....	.....	.....	.....
Total gross tonnage of all vessels inspected	75,150	254,904	17,478	55,380	8,961	411,873	30,076	10,472	181,394	191,866	12,315	11,063	8,790	10,596	42,764
New vessels added to service	11	20	8	10	4	53	15	14	10	24	6	4	6	3	19
Vessels gone out of service	8	7	8	2	3	23	19	9	2	11	2	6	2	13	23
Vessels gone into other districts	27	22	27	3	5	84	13	19	64	83	6	19	15	7	47
Gross tonnage of new vessels added to service	6,745	18,547	344	988	170	26,744	517	1,493	19,347	20,840	1,337	238	982	181	2,688
Gross tonnage gone out of service	341	1,829	252	570	68	3,060	2,779	1,288	1,770	3,058	176	328	331	905	1,740
Gross tonnage gone into other districts	50,887	24,994	4,093	590	335	80,899	4,155	1,780	144,549	146,329	1,337	3,154	1,624	1,585	7,700

Steel boilers (riveted plates):															
Inspected	233	500	104	106	73	1,016	238	130	234	364	156	157	118	128	554
Found defective	12	47	14	7	5	85	18	16	22	38	36	26	26	43	131
Gave way under hydrostatic pressure		7	7	2	3	19	1	1	13	14		1	1		2
Iron boilers (riveted plates):															
Inspected	44	95	16	15	1	171	3	6	13	19	2		6	8	16
Found defective	5	15	3	2		25		1	1	2					
Gave way under hydrostatic pressure	1	2	1	1		5									
Coil and pipe boilers:															
Inspected	22	30	18	15	22	107	2	11	37	48	1	2		3	6
Found defective	1	3			1	5									
Gave way under hydrostatic pressure		2				2									
Boilers condemned from further use:															
Steel (riveted plates)	1	23	1	1		26	1				3	4		6	13
Iron (riveted plates)		3	2			5		1		1					
Coil and pipe		2				2									
Violations of the law:															
Investigations by local boards	20	9	1		6	36	7		2	2	2	14	3	5	24
Cases reported by local boards to district attorneys and chief officers of customs		3			2	5		4	7	11	2	10		5	17
Appeals taken from the decisions of the local boards	1				1	2	18		1	1	1	1			2
Accidents causing loss of life by explosions or accidental escape of steam												1			1
Steamers wrecked or foundered	1		1	1	2	5	12	1	8	9	1			2	3
Accidents:															
By collision	11	15				26	2		1	1	1		1	1	3
By fire	2	5	2	1	3	13	3		1	1	1		1		2
By snags		1	1			2	6		2	2	1	1	1	4	7
Lives lost:															
By explosions or accidental escape of steam												1			1
By wr cked steamers	14					14									
By collision	2	1				3			1	1					
By snags									1	1				1	1
By accidental drowning	1	1	4	2	9	17	1		3	3		3	2	4	9
From miscellaneous causes							1	2	3	5				2	2
Passengers lost:															
By wrecked steamers	7					7									
By accidental drowning					4	4	2						1		1
From miscellaneous causes	1					1	3	1		1				2	2
Lives saved by means of life-saving appliances required by law		3				3	1							55	55
Passengers carried by steamers	8,452,975	3,737,659	551,448	321,458	181,442	13,244,982	4,007,729	926,428	983,888	1,910,316	1,026,506	432,582	245,266	1,108,749	2,808,103
Amount of property lost:															
By explosion												$150			$150
By wreck or founder	$2,000		$1,000	$2,000		$5,000	$2,500	$100	$89,800	$89,900	$400			$13,000	$13,400

Statement embracing the various matters and occurrences relating to vessels navigated, etc.—Continued.

	Third district.						Fourth district.	Fifth district.			Sixth district.				
	Norfolk, Va.	Baltimore, Md.	Charleston, S. C.	Savannah, Ga.	Jacksonville, Fla.	Total.	St. Louis, Mo.	Dubuque, Iowa.	Duluth, Minn.	Total.	Louisville, Ky.	Evansville, Ind.	Nashville, Tenn.	Memphis, Tenn.	Total.
Amount of property lost—Continued.															
By collision	$5,500	$2,830	$300			$8,630	$25		$6,000	$6,000	$2,680		$500	$250	$3,430
By fire	$2,000	$54,600	$18,000	$5,100	$13,000	$92,700	$60,250		$300	$300	$20,000		$3,000		$23,000
By snags		$300	$1,000			$1,300	$5,000		$400	$400	$10,000	$2,000		$31,700	$43,700
Original licenses issued since last annual report	137	215	89	29	54	474	112	84	75	159	28	22	38	22	100
Received original license:															
Masters of steam and other motor vessels	2	8		1		11	12	3		3		2	1	3	6
Masters and pilots of steam and other motor vessels	19	25		1	2	47	3	2	17	19	1		1	1	3
Mates of steam vessels	7	8	1	1	3	20	18	2		2	7	2	9	1	19
Mates and pilots of steam vessels	1	13				14									
Pilots of steam and other motor vessels	46	62	14	7	13	142	28	30	36	66	6	12	13	12	43
Joint pilots and engineers of steam vessels	2	3	12	10	2	29	4	2	1	3					
Engineers of steam and other motor vessels	58	91	12	9	34	204	47	45	21	66	9	6	9	5	29
Masters of sail vessels and barges	1	5				6									
Chief mates of sail vessels and barges	1					1									
Received renewal of license:															
Masters of steam and other motor vessels	1	2	1	1	1	6	15	4		4	7	2	4	1	14
Masters and pilots of steam and other motor vessels	18	27	14	23	7	89	15	23	10	33	10	11	8	10	39
Mates of steam vessels		1	1	1		3	57	6		6	9	17	22	23	71
Mates and pilots of steam vessels		1	1			2									
Pilots of steam and other motor vessels	28	27	13	12	22	102	26	8	16	24	6	7	15	9	37
Joint pilots and engineers of steam vessels	2	2	3	1	1	9		1	5	6					
Engineers of steam and other motor vessels	52	55	28	27	25	187	62	49	26	75	26	20	10	18	74
Refused license:															
Masters of steam and other motor vessels	1	4				5	1	1		1	1			4	5
Masters and pilots of steam and other motor vessels			1	2	2	5		1	2	3					
Mates of steam vessels		3	1			4					2	2		3	7

Mates and pilots of steam vessels			1			1									
Pilots of steam and other motor vessels		4			7	11	1	1	6	7	2	4		1	7
Joint pilots and engineers of steam vessels			2			2			1	1					
Engineers of steam and other motor vessels	2	1	2	1		6	4	3		3	1	8		5	14
Chief mates of sail vessels and barges			1			1									
Licenses suspended or revoked:															
Masters and pilots of steam and other motor vessels	3	2				5			2	2	1		1		2
Pilots of steam and other motor vessels	2	2			1	5					1	2	2		5
Joint pilots and engineers of steam vessels							19								
Engineers of steam and other motor vessels	5	7	1		6	19					2	3	1		6

	Seventh district.					Eighth district.						
	Cincinnati, Ohio.	Gallipolis, Ohio.	Wheeling, W. Va.	Pittsburg, Pa.	Total.	Detroit, Mich.	Chicago, Ill.	Grand Haven, Mich.	Marquette, Mich.	Milwaukee, Wis.	Port Huron, Mich.	Total.
Domestic steamers granted certificates of inspection	57	79	37	141	314	184	178	199	111	262	147	1,026
Domestic steamers refused certificates of inspection							2		1		2	5
Domestic vessels propelled by gas, fluid, naphtha, or electric motors granted certificates of inspection						1	1				2	4
Domestic sail vessels, barges, etc., granted certificates of inspection			1	1	2							
Foreign steamers granted certificates of inspection						6			4		6	16
Foreign steamers refused certificates of inspection						1						1
Total number of vessels of all kinds granted certificates of inspection	57	79	38	142	316	141	174	199	115	262	155	1,046
Total number of vessels of all kinds refused certificates of inspection						1	2		1		2	6
Gross tonnage of domestic steamers inspected	15,710	8,500	4,428	24,024	52,662	82,693	160,007	45,200	24,251	152,219	68,892	533,262
Gross tonnage of domestic vessels propelled by gas, fluid, naphtha, or electric motors inspected						19	24				44	87
Gross tonnage of domestic sail vessels, barges, etc., inspected			192	115	307							

Statement embracing the various matters and occurrences relating to vessels navigated, etc.—Continued.

	Seventh district.					Eighth district.						
	Cincinnati, Ohio.	Gallipolis, Ohio.	Wheeling, W. Va.	Pittsburg, Pa.	Total.	Detroit, Mich.	Chicago, Ill.	Grand Haven, Mich.	Marquette, Mich.	Milwaukee, Wis.	fPort Huron, Mich.	Total.
Gross tonnage of foreign steamers inspected						2,864			1,821		7,494	12,179
Total gross tonnage of all vessels inspected	15,710	8,500	4,620	24,139	52,969	85,576	160,031	45,200	26,072	152,219	76,430	545,528
New vessels added to service	2	6	7	10	25	18	12	8	1	10	14	58
Vessels gone out of service		5	3	7	15		2	2		3	5	12
Vessels gone into other districts	17	14	8		39	55	62	31	19	68	24	259
Gross tonnage to new vessels added to service	242	311	900	1,346	2,799	21,302	21,940	85	5	358	31,012	74,702
Gross tonnage gone out of service		393	248	1,238	1,879		49	321		116	4,170	4,656
Gross tonnage gone into other districts	4,726	2,379	502		7,607	39,799	102,795	10,664	8,637	68,829	23,025	248,749
Steel boilers (riveted plates):												
Inspected	154	153	101	398	806	173	205	190	106	294	146	1,114
Found defective	25	84		319	428	2	15	3	17	13	6	56
Gave way under hydrostatic pressure						2	6			10	1	19
Iron boilers (riveted plates):												
Inspected	3	2		2	7	10	16	23	12	31	22	114
Found defective							3		2	1		6
Coil and pipe boilers:												
Inspected	3	3	1	21	28	28	19	36	9	22	7	121
Found defective									3			3
Gave way under hydrostatic pressure									1			1
Boilers condemned from further use:												
Steel (riveted plates)				2	2							
Violations of the law:												
Investigations by local boards	15	6		11	32	3		4	12			19
Cases reported by local boards to district attorneys and chief officers customs	1	6		4	11	2	6	2	10	2	1	23
Appeals taken from the decisions of the local boards						1			1	1	4	7
Steamers wrecked or foundered	1	1		6	8			2	2	2	1	7
Accidents:												
By collision	5	1		8	14	4	5		4	4	8	25
By fire	1		1	4	6	2	2		2	1	4	11
By snags	3	1		2	6	5	2	4	5	4	2	22
Lives lost:												
By accidental drowning	5	2	5	8	20	1	2	1	8	5		12
From miscellaneous causes			2	1	3				1	2	3	6
Passengers lost:												
By wrecked steamers										11		11
By accidental drowning	2		3	2	7				1			1

Lives saved by means of life-saving appliances required by law			2		2				30		63	93
Passengers carried by steamers	1,183,522	750,000	780,282	570,000	3,283,804	7,219,886	592,659	915,308	264,828	275,705	709,101	9,977,482
Amount of property lost:												
By wreck or founder	$10,500	$6,000	$500	$10,400	$27,400			$18,500	$135,000	$18,000	$10,000	$176,500
By collision	$4,500	$1,200		$9,025	$14,725	$20,650	$1,750		$3,441	$855	$81,500	$108,196
By fire	$5,000			$53,500	$58,500	$7,500	$5,300		$50,200	$20,000	$92,000	$175,000
By snags	$3,500	$1,500		$2,500	$7,500	$49,000	$18,000	$40,000	$137,500	$63,000	$4,500	$312,000
Original licenses issued since last annual report	28	61	11	88	188	60	28	92	32	49	143	404
Received original licenses:												
Masters of steam and other motor vessels	7	1	1	1	10							
Masters and pilots of steam and other motor vessels		3	1	12	16			9	1	1	24	35
Mates of steam vessels	7	15	1	28	51							
Pilots of steam and other motor vessels	2	15	4	11	32	24	7	32	18	21	73	175
Joint pilots and engineers of steam vessels	1				1	1	9	4		3	4	21
Engineers of steam and other motor vessels	6	27	4	36	73	35	12	47	13	24	42	173
Received renewal of license:												
Masters of steam and other motor vessels	8	12	1	7	28							
Masters and pilots of steam and other motor vessels	12	15	6	29	62	36	21	3	8	22	28	118
Mates of steam vessels	46	37	13	36	132							
Pilots of steam and other motor vessels	5	13	6	6	30	33	43	25	10	40	25	176
Joint pilots and engineers of steam vessels	2			1	3	1	4	6	1	6	1	19
Engineers of steam and other motor vessels	21	21	8	49	99	54	58	32	28	41	41	254
Refused license:												
Masters of steam and other motor vessels			1		1							
Masters and pilots of steam and other motor vessels				2	2	1	1				11	13
Mates of steam vessels		1		1	2							
Pilots of steam and other motor vessels			1		1	9	5	3	1	3	14	35
Engineers of steam and other motor vessels	2	3	1	3	19	9	6	1	1	2	15	34
Licenses suspended or revoked:												
Masters and pilots of steam and other motor vessels	6	1		2	9							
Pilots of steam and other motor vessels	2				2			1	3		1	5
Engineers of steam and other motor vessels	1	3		2	6	2			1			3

Statement embracing the various matters and occurrences relating to vessels navigated, etc.—Continued.

	Ninth district.						Tenth district.				
	Cleveland, Ohio.	Buffalo, N. Y.	Burlington, Vt.	Oswego, N. Y.	Toledo, Ohio.	Total.	New Orleans, La.	Apalachicola, Fla.	Galveston, Tex.	Mobile, Ala.	Total.
Domestic steamers granted certificates of inspection	232	368	45	134	105	884	341	78	89	147	655
Domestic steamers refused certificates of inspection			1			1	3	1	1		5
Domestic vessels propelled by gas, fluid, naphtha, or electric motors granted certificates of inspection							8	8	7	10	23
Domestic vessels propelled by gas, fluid, naphtha, or electric motors refused certificates of inspection										1	1
Domestic sail vessels, barges, etc., granted certificates of inspection							4		2	3	9
Foreign steamers granted certificates of inspection		20	2	22	3	47	31		8	8	47
Foreign steamers refused certificates of inspection										1	1
Total number of vessels of all kinds granted certificates of inspection	232	388	47	156	108	931	379	81	106	168	734
Total number of vessels of all kinds refused certificates of inspection			1			1	3	1	1	2	7
Gross tonnage of domestic steamers inspected	428,375	329,206	3,319	25,643	51,875	838,418	57,309	8,419	51,563	15,568	132,859
Gross tonnage of domestic vessels propelled by gas, fluid, naphtha, or electric motors inspected							74	125	219	260	678
Gross tonnage of domestic sail vessels, barges, etc., inspected							3,521		2,697	1,691	7,909
Gross tonnage of foreign steamers inspected		25,569	1,553	5,480	2,018	34,620	96,375		39,796	5,721	141,892
Total gross tonnage of all vessels inspected	428,375	354,775	4,872	31,123	53,893	873,038	157,279	8,544	94,275	23,240	283,338
New vessels added to service	16	19	2	4	7	48	29	2	10	20	61
Vessels gone out of service	2	11	6	7		26	9	2	2	1	14
Vessels gone into other districts		93		12		105	19	1	1	15	36
Gross tonnage new vessels added to service	63,978	5,411	1,205	484	11,817	82,895	8,307	146	9,465	3,055	20,973
Gross tonnage gone out of service	1,266	646	1,301	525		3,738	1,271	181	6	3	1,461
Gross tonnage gone into other districts		140,435		6,555		146,990	31,474	61	192	2,462	34,189
Steel boilers (riveted plates):											
Inspected	374	442	24	102	119	1,061	549	84	118	163	914
Found defective	34	42	1	11	8	96	28	2	2	37	69
Gave way under hydrostatic pressure	8	41			6	55	6			1	7
Iron boilers (riveted plates):											
Inspected	5	33	6	18	17	79	40	1	5	2	48
Found defective		2		1	8	11					
Gave way under hydrostatic pressure		2			3	5					

Coil and pipe boilers:											
Inspected	33	24	22	53	12	144	25	7	12	9	53
Found defective				1		1					
Boilers condemned from further use:											
Steel (riveted plates)	1		1	2		4		1	1		2
Iron (riveted plates)				2		2					
Coil and pipe				1		1	4			3	7
Violations of the law:											
Investigations by local boards	1	4				5	4	1	2	2	9
Cases reported by local boards to district attorneys and chief officers of customs	2	2	1	1	1	7	4		1		5
Appeals taken from the decisions of the local boards	1	1				2				5	5
Accidents causing loss of life by explosions or accidental escape of steam		1				1					
Steamers wrecked or foundered	4	2				6	5	1	1		7
Accidents:											
By collision		5			1	6	4	2	1	1	8
By fire	2	5	2	3	4	16	2	4	2	1	9
By snags and stranding		1				1	3			1	4
Lives lost:											
By explosions or accidental escape of steam		1				1					
By wrecked steamers	1					1	19				19
By collision		3				3			3		3
By snags							7				7
By accidental drowning	1	2				3	6	4		2	12
From miscellaneous causes	1	2				3					
Passengers lost:											
By wrecked steamers							1				1
By accidental drowning	1					1	4				4
Lives saved by means of life-saving appliances required by law		2				2					
Passengers carried by steamers	105,159	561,063	179,694	439,782	695,772	1,981,470	2,475,716	99,387	45,396	111,047	2,731,546
Amount of property lost:											
By wreck or founder	$31,000	$1,000				$32,000	$44,400	$2,000	$113,000		$159,400
By collision		$12,900				$12,900	$21,400	$200		$150	$21,750
By fire	$3,400	$28,200	$8,000	$31,500	$25,505	$96,605	$72,500	$20,500	$82,500		$175,500
By snags							$11,250				$11,250
Original licenses issued since last annual report	55	118	9	21	20	223	261	46	54	101	462
Received original license:											
Masters of steam and other motor vessels	9					9	5	1	1	4	11
Masters and pilots of steam and other motor vessels		9				9	30	13	1	7	51
Mates of steam vessels							16	3	3	3	25
Pilots of steam and other motor vessels	23	44	6	14	17	104	69	14	24	29	136
Joint pilots and engineers of steam vessels		3	1			4	9		5	6	20

Statement embracing the various matters and occurrences relating to vessels navigated, etc.—Continued.

	Ninth district.						Tenth district.				
	Cleveland, Ohio.	Buffalo, N. Y.	Burlington, Vt.	Oswego, N. Y.	Toledo, Ohio.	Total.	New Orleans, La.	Apalachicola, Fla.	Galveston, Tex.	Mobile, Ala.	Total.
Received original license—Continued:											
Engineers of steam and other motor vessels	23	62	2	7	3	97	126	15	19	51	211
Masters of sail vessels and barges							2		1	1	4
Chief mates of sail vessels and barges							4				4
Received renewal of license:											
Masters of steam and other motor vessels				15		15	8	1	1	6	16
Masters and pilots of steam and other motor vessels	14	10	2		4	30	55	12	21	12	100
Mates of steam vessels							47	2	2	2	53
Pilots of steam and other motor vessels	13	34	15	15	7	84	41	12	24	11	88
Joint pilots and engineers of steam vessels	1	3	2	1		7	2		2	4	8
Engineers of steam and other motor vessels	40	59	15	14	11	139	96	21	42	35	194
Refused license:											
Masters of steam and other motor vessels									1		1
Mates and pilots of steam vessels										1	1
Pilots of steam and other motor vessels	4	4		3	1	12			3	2	5
Engineers of steam and other motor vessels	8	9		5	4	26	2	11	3	3	19
Licenses suspended or revoked:											
Masters and pilots of steam and other motor vessels							4				4
Pilots of steam and other motor vessels	1	1				2					
Engineers of steam and other motor vessels								1	2	1	4

Statement embracing the various matters and occurrences relating to vessels navigated, etc.—Continued.

RECAPITULATION.

Vessels inspected:	
Domestic steam vessels	8,232
Domestic vessels propelled by gas, fluid, naphtha, or electric motors	178
Domestic sail vessels and barges	499
Foreign steam vessels	371
Total	9,280
Gross tonnage of vessels inspected:	
Domestic steam vessels	3,476,553
Domestic vessels propelled by gas, fluid, naphtha, or electric motors	8,215
Domestic sail vessels and barges	581,473
Foreign steam vessels	1,726,661
Total	5,792,902
Boilers inspected:	
Steel	11,170
Iron	1,220
Pipe	1,272
Total	13,662
Boilers found defective:	
Steel	1,031
Iron	95
Pipe	20
Total	1,146
Boilers gave way under hydrostatic pressure:	
Steel	152
Iron	19
Pipe	8
Total	179

OFFICERS.

Received original license:	
Masters of steam and other motor vessels	173
Masters and pilots of steam and other motor vessels	405
Mates of steam vessels	428
Mates and pilots of steam vessels	26
Pilots of steam and other motor vessels	1,160
Joint pilots and engineers of steam vessels	117
Engineers of steam and other motor vessels	2,042
Masters of sail vessels and barges	129
Chief mates of sail vessels and barges	98
Total	4,638
Received renewal of license:	
Masters of steam and other motor vessels	197
Masters and pilots of steam and other motor vessels	881
Mates of steam vessels	407
Mates and pilots of steam vessels	12
Pilots of steam and other motor vessels	912
Joint pilots and engineers of steam vessels	74
Engineers of steam and other motor vessels	1,977
Total	4,460

CASUALTIES—LOSS OF LIFE.

Lives lost:	
By explosion or accidental escape of steam	2
By wrecked steamers	63
By collision	41
By fire	1
By snags, sinking, and grounding	8
By accidental drowning	98
By miscellaneous causes	41
Total	254

LOSS OF PROPERTY.

By explosion	$3,950
By wreck or founder	818,100
By collision	274,731
By fire	906,675
By snags, sinking, and grounding	890,100
Total	2,393,556
Number of passengers carried on passenger steamers which are required by law to make report	335,318,469
Decrease in value of property loss from previous year	$518,715
Increase in number of vessels inspected over previous year	34
Increase in number of boilers inspected over previous year	234
Decrease in number of officers licensed from previous year *	23,471

* Originals and renewals combined.

REPORT

OF THE

COMMISSIONER OF FISHERIES

REPORT

OF THE

COMMISSIONER OF FISHERIES

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF FISHERIES,
Washington, September 15, 1904.

SIR: I have the honor to transmit herewith the report of the operations of the Bureau of Fisheries for the fiscal year 1904, consisting of a general review of the work by the Commissioner and detailed accounts by the chiefs of the respective divisions.

GENERAL RESULTS.

During the first year's operations of the Bureau of Fisheries as a component of an Executive Department, after thirty-three years' existence as an independent commission, it is to be noted that the practical work has proceeded on the same general lines as heretofore, that the results attained in all branches have been satisfactory, and that the outlook for greatly augmented work is very favorable.

The efforts of the Government on behalf of the fisheries are yearly becoming more generally appreciated, and a desire actively to cooperate with the Bureau has been manifested throughout the country by all persons directly or indirectly interested in the promotion of fishing as a business or as a pastime. The sums voted annually for expenditure through this channel represent only about 1 per cent of the value of our fisheries; the preservation of some of the most important of these is now largely dependent on the Bureau's operations; and it is easily demonstrable that in pursuing a liberal policy for the promotion of the fishing industry Congress is simply making an investment that yields returns far greater than those which attend private business enterprises.

The succeeding references to the character and scope of the Bureau's operations and the more extended accounts of the work in the various branches of the service will be supplemented by special articles in the annual report and bulletin.

PROPAGATION AND DISTRIBUTION OF FOOD FISHES.

LEADING FEATURES OF THE WORK.

The year 1904 was one of the most successful in the history of the Bureau, considered with reference to the operations of the hatcheries. The total distributions, which have been equaled by those of only a single previous season (1902), exceeded 1,250,000,000. The conditions attending the hatching of such a large number of fishes necessitate the planting of most of them in the form of fry; but increased attention has been given to the rearing of important species wherever practicable, and the output of adult, yearling, and fingerling fish was nearly 50 per cent larger than in any previous year.

The importance of the Bureau's fish-cultural operations, however, must not be gauged by the results during any one year, but by the average for a series of years. Peculiar seasonal conditions often materially modify the work of particular stations, sometimes favorably, more often unfavorably, and give an erroneous impression as to its extent. It usually transpires that a year which is characterized by a greatly diminished yield of certain fishes is noteworthy for an augmented output of others, so that the aggregate distributions remain normal. This point, which has frequently been emphasized and illustrated in previous reports, was exemplified anew in 1904, when an exceedingly poor season for shad and white-fish was offset by the largest collections of eggs of Pacific salmons and flat-fish ever known.

An important feature of the work of artificial propagation, which has often been referred to but can not be too strongly emphasized, is that an exceedingly large percentage of the young fish hatched annually are from eggs taken from fish that have been caught for market, and hence would be totally lost were it not for the efforts of the Bureau. To the many hundred millions of young food and game fishes thus produced must be added many more millions resulting from the superiority of artificial propagation over natural propagation in the matters of fertilizing and incubating eggs and of safety of the young.

STATIONS OPERATED.

The fish-cultural work of the Bureau in 1904 was conducted in 26 States, at 49 stations and substations. In respect to their output the substations are in most cases of equal, in some cases of greater, importance than the stations, but their equipment is less complete and for administrative purposes they are subordinated, and their personnel supplied from the stations to which they are attached.

The demand and the local facilities determine the proportion of effort directed toward the cultivation of the important commercial species. During the past year the salmons were propagated at 11 stations; white-fish at 7; lake trout at 5; shad at 4; pike perch at 3; cod at 2; flat-fish at 2; striped bass, white perch, and yellow perch at 1 each; and the lobster at 2.

THE SPECIES CULTIVATED AND DISTRIBUTED.

The number of species now regularly cultivated and distributed by the Bureau is upward of 50, and the artificial propagation of new fishes is being taken up as the work increases and the demand arises. A full list of the species handled in 1904 follows, from which it will be seen that in every section, so far as the existence of hatcheries permits, the supply of the important food and game fishes is being increased by the Bureau's efforts. Thus, in the rivers of the Atlantic seaboard shad, salmon, striped bass, white perch, and yellow perch have been planted; in the streams of the Pacific coast, quinnat salmon, blueback salmon, silver salmon, humpback salmon, and steelheads; the Great Lakes have been stocked with white-fish, lake herring, lake trout, and pike perch; the numerous interior lakes, ponds, and streams have been enriched by plants of landlocked salmon, rainbow trout, black-spotted trout, brook trout, grayling, black bass, calico bass, crappie, rock bass, sun-fish, etc.; and in the waters of the northeast coast the supply of cod, pollock, flat-fish, and lobster has been increased.[a]

The Cat-fishes (SILURIDÆ).

* § Spotted Cat, Blue Cat, Channel Cat (*Ictalurus punctatus*).
* § Horned Pout, Bullhead, Yellow Cat (*Ameiurus nebulosus*).
* Marbled Cat (*Ameiurus nebulosus marmoratus*).
§ Black Cat (*Ameiurus melas*).

The Suckers and Buffalo-fishes (CATOSTOMIDÆ).

§ Small-mouth Buffalo-fish (*Ictiobus bubalus*).

The Minnows and Carps (CYPRINIDÆ).

† ‡ Carp (*Cyprinus carpio*). Cultivated varieties, German Carp, Leather Carp, Mirror Carp, etc.
‖ ‡ Gold-fish (*Carassius auratus*).
‖ ‡ Tench (*Tinca tinca*). Cultivated variety, Golden Tench.
‖ ‡ Ide (*Leuciscus idus*). Cultivated variety, Golden Ide.

The Shads and Herrings (CLUPEIDÆ).

* Shad (*Alosa sapidissima*).

The Salmons, Trouts, White-fishes, etc. (SALMONIDÆ).

* White-fish (*Coregonus clupeiformis*).
* Lake Herring, Cisco (*Argyrosomus artedi*).
* Quinnat Salmon, Chinook Salmon, Tyee Salmon, King Salmon (*Oncorhynchus tschawytscha*).
* Silver Salmon, Coho (*Oncorhynchus kisutch*).
* Blueback Salmon, Red-fish, Sockeye (*Oncorhynchus nerka*).
* Humpback Salmon (*Oncorhynchus gorbuscha*).
* Steelhead, Hardhead, Salmon Trout (*Salmo gairdneri*).
* Rainbow Trout (*Salmo irideus*).
* Atlantic Salmon (*Salmo salar*).
* Landlocked Salmon (*Salmo sebago*).
* Yellowstone Lake Trout, Cut-throat Trout, Black-spotted Trout (*Salmo lewisi*).
* Colorado River Trout, Black-spotted Trout (*Salmo pleuriticus*).
* Arkansas River Trout, Green-backed Trout (*Salmo stomias*).
* Yellow-finned Trout (*Salmo macdonaldi*).

---

[a] The fishes artificially propagated are designated thus, *; those simply collected and distributed thus, §; those propagated as food for other fishes thus, †; those propagated for ornamental purposes thus, ‖; and introduced species thus, ‡.

‡ * Sea Trout, Salmon Trout (*Salmo trutta*).
‡ * Loch Leven Trout (*Salmo trutta levenensis*).
* Lake Trout, Mackinaw Trout, Longe, Togue (*Cristivomer namaycush*).
* Brook Trout, Speckled Trout (*Salvelinus fontinalis*).
* Gilden Trout, Sunapee Lake Trout (*Salvelinus aureolus*).
* Canadian Red Trout (*Salvelinus marstoni*).
* Hybrid Trout (*Salvelinus fontinalis*+*aureolus*).

The Graylings (THYMALLIDÆ).

* Montana Grayling (*Thymallus montanus*).

The Mackerels (SCOMBRIDÆ).

* Common Mackerel (*Scomber scombrus*).

The Basses, Sun-fishes, and Crappies (CENTRARCHIDÆ).

* § Crappie (*Pomoxis annularis*).
* § Strawberry Bass, Calico Bass (*Pomoxis sparoides*).
* § Rock Bass Red-eye, Goggle-eye (*Ambloplites rupestris*).
* § Warmouth, Goggle-eye (*Chaenobrytlus gulosus*).
* § Small-mouth Black Bass (*Micropterus dolomieu*).
* § Large-mouth Black Bass (*Micropterus salmoides*).
* § Blue-gill Sun-fish (*Lepomis pallidus*).

The Perches (PERCIDÆ).

* § Pike Perch, Wall-eyed Pike, Yellow Pike, Blue Pike (*Stizostedion vitreum*).
* § Yellow Perch (*Perca flavescens*).

The Sea Basses (SERRANIDÆ).

* Striped Bass, Rock-fish (*Roccus lineatus*).
* White Perch (*Morone americana*).

The Cods (GADIDÆ).

* Cod (*Gadus callarias*).
* Pollock (*Pollachius virens*).

The Flounders (PLEURONECTIDÆ).

* Winter Flounder (*Pseudopleuronectes americanus*).

Crustaceans.

* American Lobster (*Homarus americanus*).

The Bureau long since discontinued the cultivation of carp, and does not favor the further indiscriminate planting of this species; that the demand for the fish is not satisfied, however, notwithstanding its wide dispersal, is shown by the numerous applications received from all parts of the country for supplies of carp for private and public waters. It is the practice to satisfy these requests by the substitution of better native species, among which the cat-fishes may be mentioned. The fishes of this family are adapted to such different conditions, and are so hardy and prolific, and are so wholesome, that they are among the best fishes available for the stocking of certain waters. The demand is increasing, and the Bureau is endeavoring to meet it by taking up cat-fish culture incidentally and on a necessarily small scale at several hatcheries; but the time seems to have arrived when a special station for the cultivation of the cat-fishes is required.

Various water animals are now under investigation that may eventually lead to their wholesale propagation by the Bureau, among such being the sea mullet, the most valuable fish of the South Atlantic and Gulf States; the common blue crab; the diamond-back terrapin, and the green sea turtle.

THE OUTPUT SUMMARIZED.

The number of fish and fertilized eggs distributed by the Bureau in 1904 is given by species in the appended summary. The aggregate output of 1,267,343,025 was divided as follows: Fertilized eggs, 263,123,354; fry, 994,503,040; fingerlings, yearlings, and adults, 9,716,631. The eggs shown were for the most part donated to various States to be incubated in their own hatcheries, the resulting fry being planted under the direction of the State fishery authorities. The number of fish and eggs of each three species distributed exceeded 200,000,000; the output of each of two others was over 100,000,000, and of six others upward of 20,000,000.

It is worthy of remark that while the Bureau makes ample provision for maintaining the supply of fishes caught chiefly by anglers, nearly 99 per cent of the fish handled are those which are the objects of commercial fisheries.

Summary of distribution of fish and eggs during the fiscal year 1904.

Species.	Eggs.	Fry.	Fingerlings, yearlings, and adults.	Total.
Shad	13,169,000	65,493,000	.....	78,662,000
Quinnat salmon	75,217,354	35,006,988	4,125	110,228,467
Silver salmon	.....	3,984,645	.....	3,984,645
Blueback salmon	.....	3,855,000	.....	3,855,000
Humpback salmon	.....	176,597	.....	176,597
Atlantic salmon	25,500	2,566,716	369,000	2,961,216
Landlocked salmon	122,500	27,200	411,428	561,128
Steelhead trout	161,000	102,705	230,435	494,140
Loch Leven trout	.....	182,300	2,291	184,591
Rainbow trout	214,000	471,378	523,103	1,208,481
Blackspotted trout	469,000	19,315	6,646,139	7,134,454
Lake trout	3,060,000	18,486,460	43,831	21,590,291
Brook trout	541,000	7,221,536	842,452	8,604,988
Golden trout	.....	36,000	30	36,030
Canadian Red trout	.....	.....	13	13
Grayling	334,000	2,692,200	255	3,026,455
White-fish	60,315,000	176,485,000	.....	236,800,000
Lake herring	.....	23,300,000	.....	23,300,000
Pike perch	109,495,000	181,706,000	.....	291,201,000
Yellow perch	.....	23,263,000	.....	23,263,000
Striped bass	.....	3,898,000	.....	3,898,000
White perch	.....	29,350,000	.....	29,350,000
Large-mouth black bass	.....	.....	488,490	488,490
Small-mouth black bass	.....	.....	16,392	16,392
Crappie	.....	.....	22,172	22,172
Strawberry bass	.....	.....	2,654	2,654
Rock bass	.....	.....	49,774	49,774
Warmouth bass	.....	.....	6,270	6,270
Bream or sun-fish	.....	.....	39,920	39,920
Cat-fish	.....	.....	17,857	17,857
Cod	.....	79,455,000	.....	79,455,000
Pollock	.....	1,246,000	.....	1,246,000
Mackerel	.....	324,000	.....	324,000
Flat-fish	.....	228,272,000	.....	228,272,000
Lobster	.....	106,882,000	.....	106,882,000
Total	263,123,354	994,503,040	9,716,631	1,267,343,025

DISTRIBUTIONS IN THE DIFFERENT STATES.

The fish-cultural operations of the Bureau affect every State and Territory, as the following condensed table shows. Of the 1,264,408,025 fish and eggs distributed in the United States, Massachusetts received the largest assignment, 363,854,407, owing to the concentration of marine fishery work in that State; 202,166,318 were distributed in Ohio and 169,544,407 in Michigan waters; Pennsylvania received 81,687,230; Maine, 67,232,963; California, 66,807,484, and other States and Territories according to their needs and the capacity of the hatcheries.

Distributions and assignments of fish and eggs in the States and Territories during the fiscal year 1904.

State or Territory.	Fish and eggs distributed.	State or Territory.	Fish and eggs distributed.
Alabama	48,250	Nebraska	98,800
Arizona	10,030	New Hampshire	2,985,740
Arkansas	34,005	New Jersey	6,359,950
California	66,807,484	New Mexico	215,075
Colorado	5,144,060	New York	26,248,275
Connecticut	6,833,425	North Carolina	12,275,025
Delaware	6,001,400	North Dakota	312,850
District of Columbia	995,200	Ohio	202,166,318
Florida	3,950	Oklahoma	9,458
Georgia	2,563,790	Oregon	27,157,687
Idaho	251,200	Pennsylvania	81,687,230
Illinois	15,798	Rhode Island	2,951,800
Indiana	11,533,900	South Carolina	1,184,600
Indian Territory	3,220	South Dakota	2,786,638
Iowa	1,944,300	Tennessee	48,025
Kansas	16,470	Texas	139,246
Kentucky	1,891,089	Utah	202,000
Louisiana	4,356	Vermont	31,514,721
Maine	67,232,963	Virginia	29,148,858
Maryland	59,121,458	Washington	24,768,160
Massachusetts	363,854,148	West Virginia	1,728,011
Michigan	169,544,407	Wisconsin	12,147,050
Minnesota	5,881,200	Wyoming	824,300
Mississippi	51,882		
Missouri	24,642,513	Total	1,264,408,025
Montana	3,016,450		

CAR AND MESSENGER SERVICE.

The distribution of the output of the various hatcheries is accomplished by means of the Bureau's five railway cars especially designed for the purpose, and a corps of detached messengers who accompany consignments of fish in baggage cars to the less accessible places. The cars traveled 70,221 miles in the past year, the messengers 103,177 miles. Free transportation was furnished by a number of railroad companies, as shown in the following table, and acknowledgment is hereby made of this courtesy and liberality.

Statement of miles of free transportation furnished by various railroads during the year 1904.

Name of railroad.	Cars.	Messengers.	Name of railroad.	Cars.	Messengers.
Atchison, Topeka and Santa Fe		525	Maine Central	5,543	558
Baltimore and Ohio	640		Missouri Pacific	980	1,846
Bangor and Aroostook	1,848	969	Mobile and Ohio	878	
Boston and Maine		12,393	Montana	628	
Burlington and Missouri River		5,043	Montpelier and Wells River		478
Central Vermont		28	New York Central and Hudson River		172
Chesapeake and Ohio		380	Norfolk and Western		2,701
Chicago, Burlington and Quincy		385	Northern Pacific		54
Chicago and Northwestern		1,698	Oregon Short Line	724	
Chicago, Rock Island and Pacific		426	Pennsylvania	456	
Colorado Midland		967	Pere Marquette		3,169
Colorado and Southern		3,354	Phillips and Rangeley		58
Colorado Springs and Cripple Creek District		174	Portland and Rumford Falls	876	
Corvallis and Eastern		56	Rio Grande Southern		142
Crystal River		84	Rio Grande Western		708
Delaware, Lackawanna and Western	290		Rumford Falls and Rangeley Lake		184
Denver and Rio Grande		12,401	Rutland		743
Detroit and Mackinac		504	St. Johnsbury and Lake Champlain		864
Fort Worth and Denver City		2,004	St. Louis and San Francisco	1,809	3,884
Franklin and Megantic		90	St. Louis Southwestern		709
Galveston, Harrisburg and San Antonio		209	San Antonio and Aransas Pass		758
Grand Rapids and Indiana		316	Sandy River		89
Grand Trunk		47	Somerset		164
Gulf, Colorado and Santa Fe		11,248	Southern Kansas		260
Houston, East and West Texas		296	Southern Pacific		1,840
Houston and Texas Central		2,488	Texas and New Orleans		267
Illinois Central		498	Texas and Pacific	1,063	5,452
International and Great Northern		14,632	Vandalia	254	
Iron Mountain and Greenbrier		88	Wabash		1,592
Kansas City Southern		1,006	Washington County	204	
Lexington and Eastern		74	Total	15,198	98,957

RELATIONS WITH THE STATES.

The Bureau maintains close relations with the fishery authorities of the States, and cooperates with them to the fullest extent in the promotion of local fishery interests. This cooperation is of mutual benefit, and the results are often much greater than would be possible were the Government and the States to pursue independent courses. The Bureau is pleased to defer to the State officers in all matters affecting local conditions, and does not take any part in State fishery legislation.

Donations of eggs and fish have been made to the fish commissions of 18 States, under whose direction the eggs were hatched and the fry distributed. The allotments to the States, as shown in detail in the table, aggregated more than 244,000,000, representing 13 species of food fishes.

Allotments of eggs and fish to the State fish commissions in 1904.

State and species.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
California:			
Brook trout	200,000		
Grayling	100,000		
Landlocked salmon	10,000		
Quinnat salmon	64,147,354		
Colorado:			
Steelhead trout	40,000		
Connecticut:			
Lake trout	200,000		
Landlocked salmon	10,000		
Rainbow trout	22,000		
Shad		3,000,000	
Maine:			
Landlocked salmon	25,000		
Quinnat salmon	100,000		
Steelhead trout	20,000		
Maryland:			
Shad	5,989,000		
Massachusetts:			
Pike perch	5,000,000		
Rainbow trout	30,000		
Michigan:			
Grayling	100,000		
Lake trout	2,300,000		
Loch Leven trout			30
Pike perch	47,495,000		
Steelhead trout			15
Minnesota:			
Rainbow trout			34,800
Missouri:			
Grayling	46,000		
Pike perch	10,000,000		
Nebraska:			
Brook trout	50,000		
Rainbow trout	33,000		10,000
New Hampshire:			
Atlantic salmon	20,000		
Lake trout	100,000		
Landlocked salmon	10,000		
Quinnat salmon	100,000		
Steelhead trout	20,000		
New York:			
Brook trout		200,000	
Lake trout	200,000		
White-fish	2,000,000		
Oregon:			
Brook trout		1,000	
Quinnat salmon	10,569,000		
Pennsylvania:			
Atlantic salmon	3,000		
Lake trout	2),000		
Pike perch	35,000,000		
Rainbow trout			1,000
White-fish	46,280,000		
Utah:			
Brook trout	50,000		
Vermont:			
Brook trout		5,000	
Wisconsin:			
White-fish	10,000,000		
Wyoming:			
Black spotted trout	400,000		
Grayling	50,000		
Rainbow trout	25,000		
Total	240,944,354	3,206,600	45,845

At the request of the Michigan fish commissioners, the Bureau has continued to operate the State hatcheries at Detroit and Sault Ste. Marie, directing its efforts there to the propagation of white-fish, lake trout, and pike perch. Negotiations are in progress with a view to the taking over by the Government of other State hatcheries which for various reasons the local authorities do not care to operate.

In its efforts to maintain the supply of commercial fishes, the Bureau has nowhere labored more assiduously and expended more money than in Michigan, which State has most valuable fishery interests at stake in all of the Great Lakes except one. For many years the fish-cultural work of the Government on the Great Lakes has been on an immense scale, far exceeding that in any other section of the country, and of the unmistakable benefits resulting therefrom the Michigan fishermen have reaped the largest share. Notwithstanding these facts, however, the fish wardens of Michigan have for a number of years made determined efforts to interfere with and curtail the work of the Bureau's representatives, raising petty objections to the methods pursued in the collection of spawn. Their shortsighted and unwarranted actions have caused great annoyance and at times have threatened completely to stop fish-cultural work in the Michigan waters of the Great Lakes. During several years matters were at an acute stage, but it was not until the fall of 1903 that a crisis came, resulting in the arrest of employees of the Bureau by State officers. In view of the important bearing of this case on the work of the Bureau in the Great Lakes region, it is considered advisable to refer to it in some detail by citing laws, correspondence, and judicial proceedings, as follows:

Section 4398, Revised Statutes of the United States, regarding powers of the United States Fish Commission.

The Commissioner may take or cause to be taken at all times, in the waters of the seacoast of the United States, where the tide ebbs and flows, and also in the waters of the lakes, such fish or specimens thereof as may, in his judgment, from time to time be needful or proper for the conduct of his duties, any law, custom, or usage of any State to the contrary notwithstanding.

Section 6, Act 88, Public Acts of Michigan, 1899.

It shall be lawful for the United States Fish Commission, through its representatives or employees, to fish with nets in any of the waters of this State during any season of the year, for the purpose of gathering spawn from such fish caught, to have and to hold both ripe and unripe fish, *and to have the privilege of selling such fish after stripping*, to help defray the expenses incurred in the work of propagation: *Provided*, That such fishing by said Fish Commission shall be under the supervision and control of the State game and fish warden: *And provided further*, That at least 75 per cent of the fry resulting from the spawn so taken shall be planted in the waters of this State, the same to be determined by reports to the State game and fish warden.

Letter of S. P. Wires, superintendent United States hatchery, Duluth, Minn., October 23, 1903, to C. H. Chapman, State fish warden, Sault Ste. Marie, Mich.

On behalf of the United States Fish Commission, I respectfully request your permission to continue fishing with tugs at Marquette and Ontonagon a few days, if practicable, after the beginning of the close season. We desire to comply fully with your wishes and the law of your State in the conduct of this work, and any instructions you may give us in relation thereto will be carefully carried out.

On the first day of the close season last year we wired your predecessor, Mr. Morse, the names of the tugs we were operating, also the names of the masters of the tugs, and each day thereafter we reported direct to him the number of pounds of fish taken by each tug, and last June we mailed your office a statement showing the number of eggs collected in Michigan during the close season and the number of fry planted in Michigan waters from the Duluth station, and so far as I know everything was entirely satisfactory.

I am under the impression that we discontinued fishing last season at Ontonagon on the 4th and at Marquette on the 7th of November.

An early reply will greatly oblige.

Telegram of S. P. Wires, Duluth, October 27, to State fish warden, Sault Ste. Marie.

In order to fully stock the United States Fish Commission station, Duluth, with lake-trout eggs, it will be necessary to continue fishing with two or three tugs at Marquette and probably two at Ontonagon, Mich., a few days after the beginning of the close season, but it will be impossible to give any portion of the fish caught while engaged in this work to the State, as the total catch of fish will fall considerably short of paying the expenses of collecting the eggs. Will you insist upon taking the unstripped fish? Please wire reply.

Telegram of State fish warden, Sault Ste. Marie, October 28, to S. P. Wires, Duluth.

I have no power to change the law; fish not spawners belong to the State of Michigan.

Telegram of S. P. Wires, Duluth, October 28, to United States Commissioner of Fisheries, Washington, D. C.

To procure a full stock of eggs for the Duluth station it will be necessary to continue fishing at Marquette and Ontonagon a few days after October 30, as we did last year; but if compelled to turn over to the State all unstripped fish it will, in my judgment, be impracticable to do so. The game and fish warden of Michigan claims that all unripe fish caught by the United States Fish Commission during the close season are State property. Please advise.

Telegram of United States Commissioner of Fisheries, October 29, to S. P. Wires, Duluth.

Make collection of lake-trout eggs same as last season.

Telegram of S. P. Wires, Marquette, Mich., November 4, to United States Commissioner of Fisheries.

State game and fish warden has arrested captains of tugs fishing for us at Marquette. Have four gang nets in lake at this point. Should have competent attorney to look after the interests of the Commission at once. Please advise.

Telegram of United States Commissioner of Fisheries to S. P. Wires, Marquette, November 4.

Matter will be referred to Department of Justice and Attorney-General will probably instruct district attorney to look after interests of this Bureau.

Telegram of S. P. Wires, Marquette, Mich., November 4, to United States Commissioner of Fisheries.

Have had trial against masters and owners adjourned until the 11th instant. Tugs will lift to-morrow. Game warden threatens to seize all fish caught from now on. Wire instructions.

Letter of Frank N. Clark, superintendent United States hatchery, Northville, Mich., October 31, to United States Commissioner of Fisheries.

On my arrival at the Soo Tuesday morning, October 27, I found your telegram ordering me to "proceed with lake-trout collection and dispose of fish same as last season." Soon after receiving your telegram I had a conference with Mr. Chapman, State game and fish warden, and told him I should proceed to make the lake-trout collection on the same lines as last season, in accordance with your orders. He stated that the attorney-general of the State informed him we had no right to sell unripe fish, but he would confer with him again and obtain a written opinion, and if he still held to his former opinion, the warden thought it best to start a friendly suit in order to test the law, and asked me to write the Bureau and see if you would agree to it. I think it best to have the matter tested in the courts, if we are to be bothered by the warden in this manner every year.

From the Soo I went to Manistique to confer with Mr. Platts, the field foreman at that point, and Capt. John Coffy, who is fishing three tugs for us. Coffy informed me it would be impossible for him to fish for us under the requirements of the warden. I then informed him that we would fish the same as last year.

On my return to Northville I found a telegram from Mr. Stewart, field foreman at Beaver Island, stating the tug fishermen at Beaver Island refused to fish on the basis required by the warden, and he has also been instructed to fish on the old system.

As yet very few eggs have been received from Manistique. Information from Platts yesterday says 20 per cent of the females are spawning. As that was the last day of the open season, nets will be set, and if 50 per cent of the spawners are ripe, the work will be pushed vigorously.

Telegram of F. N. Clark, Mackinaw City, November 10, to United States Commissioner of Fisheries.

Court temporarily enjoined warden not to interfere. Hearing 24th instant Grand Rapids. Warden assures superintendent no interference, Detroit River, even if injunction dissolved.

Letter of S. P. Wires, Duluth, November 13, to United States Commissioner of Fisheries.

In regard to our trouble with Mr. Chapman, game and fish warden of Michigan, permit me to state that I tried to arrange matters with him so as to continue fishing for a few days after the beginning of the close of the season under the Michigan laws, but was unable to come to a satisfactory understanding, so I wired him after receiving instructions from you that we would continue fishing with the tugs *Columbia* and *Theora* at Marquette, Mich., under the same regulations as we did a year ago, and everything went along smoothly until the morning of the 3d instant, when Mr. Brewster, chief deputy warden, and two assistants, undertook to go aboard the tugs for the purpose of supervising our work and to seize all unstripped fish for the State. We could not allow this, as it would lay each tug captain liable to a fine of $500, also to have his license for sailing a steamboat canceled; consequently Mr. Brewster was very much provoked and arrested the captains and owners for illegal fishing shortly after the tugs returned from lifting, but did not seize fish or nets. However, the arrest of the captains caused us to lose from 500,000 to 600,000 eggs, as no lift could be made on the 4th.

In order that we might continue fishing until the close of the spawning season, or until we could get definite orders from you, I employed a competent attorney and had the hearing of the captains and owners adjourned for one week, but owing to unfavorable weather was unable to lift on the 5th, and after lifting two gangs of nets on the 6th, we concluded that it was time to discontinue work, as many of the fish taken on that date were through spawning and there were very few unripe fish.

When the tugs returned from lifting on the 6th, all nets and fish were seized and turned over to the captains of the tugs to be cared for, and the same was done on the 7th, when the last nets were brought ashore, and all spawn takers, including Frank Thomas and myself, were arrested on the evening of the 6th for fishing in violation of the State game and fish laws, and in order to save time and expense my attorney advised me to admit certain facts in connection with the case, and if found guilty, to take an appeal, which I did.

Decision of United States Judge Wanty.

In the circuit court of the United States for the western district of Michigan. United States of America, complainant, *v.* Charles Chapman and Charles E. Brewster, defendants. Memorandum for judgment on order to show cause:

Under the acts of Congress providing therefor, the President of the United States appoints a Commissioner of Fish and Fisheries, whose duty it is to investigate the subject with a view to ascertaining what diminution, if any, in the number of food fishes of the coast and the lakes of the United States has taken place, and from what cause the same is due, and whether any protective, prohibitory, or precautionary measures should be adopted in the premises, and report upon the same to Congress. It is also provided that the heads of the sev-

eral Executive Departments shall cause to be rendered all necessary and practical aid to the Commissioner in the prosecution of his investigations and inquiries, and section 4398 of the Revised Statutes provides that "the Commissioner may take or cause to be taken at all times in the waters of the seacoast of the United States, where the tide ebbs and flows, and also in the waters of the lakes, such fish or specimens thereof as may in his judgment from time to time be needful or proper for the conduct of his duties, any law, custom, or usage of any State to the contrary notwithstanding."

On November 6, 1903, which was during the closed season under the Michigan statute, while the eggs of white-fish and trout for the purpose of propagation in Michigan were being gathered near Marquette, in Lake Superior, under the direction of S. P. Wires, superintendent of the United States fish hatchery at Duluth, he was arrested by the defendants in this case, and the fish in his possession were confiscated. The action of Superintendent Wires and his men in submitting to the humiliation of the forcible boarding of their boat and the seizure and confiscation of the fish, without forcible resistance, and appealing to the courts where controversies of this nature between the two sovereign Governments should be settled without friction, can not be too highly commended.

The defendants are the Michigan state game and fish warden and his deputy, who claim that all fishing by the United States Commissioner of Fish and Fisheries in the Great Lakes bordering on the State of Michigan must be done under their supervision, and that the only right the United States Fish Commission has to fish, for the purpose for which Congress created it, in Michigan waters during the closed season, is considered by act No. 88 of the Public Acts of 1899, which reads: "It shall be lawful for the United States Fish Commission, through its representatives or employees, to fish with nets in any of the waters of this State, during any season of the year, for the purpose of gathering spawn from such fish caught, to have and to hold both ripe and unripe fish, and to have the privilege of selling such fish after stripping to help defray the expense incurred in the work of propagation; that such fishing by said Commission shall be under the supervision and control of the State game and fish warden: *And provided further*, That at least seventy-five per cent of the fry resulting from the spawn so taken shall be planted in the waters of this State, the same to be determined by reports to the State game and fish warden."

A deputy of the State game and fish warden demanded the right to superintend the fishing operations of the United States Commissioner of Fish and Fisheries, which demand was refused, and he then seized and confiscated the fish in the possession of the Commissioner's agents, and caused the arrest of Wires and the persons found assisting him.

If the United States has the right which Congress evidently intended to confer by the legislation above quoted, and a deputy game warden can legally interfere with the exercise of that right, in the manner admitted in the answer filed in this case, then the Government is entitled to the contempt which the deputy game warden exhibited toward it. The United States can not undertake any work where it is not supreme, and a Government officer could not, in any legitimate function of the Government, be under the direction and control of a State officer. If the Federal statute by which it was intended to confer on the Commissioner the right to take or cause to be taken in the waters of the lakes such fish as in his judgment is needful for the proper conduct of his duties is constitutional, the legislation is exclusive, and any act of any State, so far as it conflicts with that legislation, is void. The Attorney-General in his brief says: "The defendants contend that the right of complainant to so take fish can be exercised only pursuant to the authority granted to the United States Fish Commission by the laws of the State of Michigan; that the power of complainant is limited and defined by those laws, and that any enactment of Congress contravening the statutes of this State in relation to such fishing is unconstitutional and void." The act of Congress, if invalid, is so because it conflicts with the Federal Constitution, and not because it contravenes the statutes of the State of Michigan. If it is decided that the United States has no right to take fish under the act of Congress, its propagation of food fishes must cease, because it would be intolerable for it to exercise any of its functions under the direction and control of persons over whom it has no authority.

If the acts of Congress creating this department are void, the Government must of necessity suspend it, and such suspension would mean an immense loss to the State of Michigan, and probably a much greater loss to the States bordering on tide water, where shellfish are propagated. The constitutionality of

this legislation has not before been questioned in the courts, and if the law of the United States seeking to confer upon the Commissioner of Fish and Fisheries the right at all times to take fish needful for the conduct of his duty, notwithstanding contrary legislation by the State, is unconstitutional, such grave consequences must flow from a judgment announcing it that it seems to me not proper to pass upon the question on a preliminary hearing where the preparation must of necessity be inadequate. The precipitate action of the defendants in this case indicates that a dissolution of the injunction would lead to an unseemly conflict which should be avoided, and therefore the injunction will remain in force until the final hearing of the cause.

RELATIONS WITH FOREIGN COUNTRIES.

Requests for the eggs of American fish for foreign countries have been received through diplomatic and other channels, and, as in previous years, have been complied with as far as practicable. For long-distance shipments only eggs with a protracted hatching period are available, and of these the salmonoid eggs are the most important. Upward of 2,500,000 of such eggs have been presented to Canada, Argentina, England, Wales, France, Japan, and New Zealand, as follows:

Countries.	Species.	Number of eggs.
Canada	Rainbow trout	20,000
Argentina	Steelhead trout	20,000
	Brook trout	100,000
	Lake trout	50,000
	White-fish	1,000,000
	Landlocked salmon	50,000
England	Rainbow trout	10,000
	White-fish	25,000
Wales	Black-spotted trout	25,000
France	Rainbow trout	10,000
Japan	Brook trout	25,000
New Zealand	White-fish	1,000,000
	Quinnat salmon	300,000
Total		2,635,000

Cordial relations exist between this Bureau and the department of marine and fisheries of the Province of Ontario. The minister permits the Bureau to collect white-fish and lake trout spawn in the Canadian waters of Lakes Superior and Erie, and in return for this privilege the Bureau makes plants of fry near the international boundary or in the Canadian waters adjacent thereto.

The eggs presented to the Argentine Republic marked the beginning of fish culture in that enterprising country. They were sent in care of a representative of the Bureau, were en route from forty-six to fifty days, and arrived at their destination and were hatched with an average loss of less than 10 per cent. This is worthy of note, not only because it is probable that these eggs were transported a greater distance than has heretofore been recorded in the history of fish culture, but also from the fact that they were taken across the equator, and then carried by team 300 miles over the hot sands of the territory of Neuquen, to be hatched at just the opposite season of the year to that in which they would naturally have hatched in their home waters.

The eggs sent to the New Zealand Government were also in charge of a Bureau agent. The white-fish eggs were in course of transportation thirty-four days and the salmon eggs twenty-seven days, a journey of 2,600 and 250 miles, respectively, by rail, and 6,600 miles by

steamer, during which they were transshipped eighteen times in wagons, railway cars, and vessels before reaching their destination. The salmon eggs were delivered to the New Zealand inspector of fisheries at Auckland with an actual loss of less than one-half of 1 per cent, while the white-fish eggs were delivered at the same point with a loss of 10 per cent; in the reshipment from Auckland to Wellington by steamer there was a further loss of 10 per cent in the white-fish and a fraction of 1 per cent in the salmon eggs, probably due to the fact that they had to be transported during the final journey at a rather high temperature, there being no cold-storage facilities on board the steamer.

NEW STATIONS AND IMPROVEMENTS.

The purchase of the land selected for the new station at Mammoth Spring, Ark., was consummated June 24, 1904, and the preliminary topographical survey was at once begun. The site contains 15.52 acres, is in the town a short distance from the railroad station, and is thus conveniently located for shipping fish and handling supplies. The water is obtained from a large lake reservoir formed by damming Mammoth Spring, which is a remarkable outflow of cold, pure water admirably suited to the propagation of fish. The deed of sale carries the right of drawing a maximum quantity of 1,200 gallons a minute from this reservoir.

At Tupelo, Miss., two stock ponds, each 3½ to 4½ feet in depth and about 1½ acres in area, have been completed, together with six cement rearing ponds ranging from 50 to 60 feet in length and 8 feet in width. These ponds are supplied with water from the wells by an open conduit. A foreman's cottage, a frame building 50 by 29 feet and containing eight rooms, has been built, the grounds have been fenced and graded, roadways begun, and shrubbery set out.

Owing to the exceptional advantages offered at Boothbay, Me., for the propagation of both lobsters and cod, it was decided to build and equip the station in the most modern and complete manner. The site is a rocky point of land, and stone quarried on the spot has entered largely into the construction of the new buildings, which are not only substantial but in keeping with their surroundings. On the property originally purchased are a seven-room frame dwelling, a small stable, and a storehouse, which, with some repairs, have all been utilized to good advantage. In July, 1903, the hatchery and a pumping plant were begun. The hatchery is a 1½-story frame structure on a heavy stone and concrete foundation. The main part is 70 by 48 feet, with an extension 18 by 11 feet on the north side, surmounted by a tower. Besides the hatching room, 66 by 44 feet, which when equipped will accommodate several hundred million lobster and cod eggs, the building contains a sleeping room, office, storage loft, closets, etc., is well lighted, has concrete floors, and is finished in natural wood. At a short distance from the shore has been built the pump house, circular in form and 22 feet in diameter. It is of heavy masonry to a height of 19½ feet, and supports a tower containing a cedar tank with a capacity of 7,500 gallons. Leading from the bottom of the pump well a suction pipe extends into the water to a point 2 feet below extreme low-water mark, and a 6-inch pipe from the pump house supplies the hatchery. Between the hatchery and the pump house is the

boiler house, also of masonry, 31 by 30 feet. A frame storehouse and carpenter shop 32 by 20 feet has been built on the wharf, and a brick cistern is conveniently located near the buildings.

Owing to the severe Maine winter and the rocky character of the site, which necessitated much blasting, progress was necessarily slow, but at the close of the year the buildings were ready for machinery and equipment. Two boilers and two pumps have been purchased and are ready for installation. On July 2, 1904, there was added to the property a third parcel of land of 1⅛ acres, making a total area of about 10 acres. This purchase included a 2½-story frame dwelling, containing 11 rooms, which can be easily remodeled into a superintendent's residence.

At White Sulphur Springs, W. Va., good progress has been made toward completing the station, and fish-culture operations are in progress on an extended scale. A residence has been constructed for the superintendent—a two-story building 53 feet square, erected on a brick foundation, containing 10 rooms and an attic, and heated by a furnace. Two stock ponds, respectively 0.45 and 0.24 acre in area and 5½ and 6 feet deep, have been completed, and a third one, nearly 0.3 acre in area, is well under way. Ten spawning ponds 66 by 12 feet, and six spawning ponds 20 by 8 feet, all from 2 to 2½ feet deep, have also been constructed. Lines of supply and waste pipes for the ponds have been laid, a wagon bridge has been built over Harpers Run, and the grounds have been graded and partly fenced.

Improvements for which special appropriations were made have been in progress at several stations, resulting in increased efficiency and economy of operation.

At Neosho, Mo., a 10-inch iron supply pipe has been laid in place of an old wooden conduit, and supply and distributing reservoirs, new troughs, machinery, and appliances were installed in the hatchery. Further improvements to the water supply are held in abeyance pending the acquirement of a right of way.

At Put-in-Bay, Ohio, the capacity of the hatchery has been increased by the purchase and installation of 760 additional hatching-jars, and iron supply tanks of a total capacity of 17,500 gallons have been substituted for the old wooden one. There have also been extensive repairs to the buildings and machinery.

At Duluth, Minn., the hatchery has been wired for electricity, 460 feet of the supply flume have been reconstructed, the crib well has been deepened, and material has been purchased for a new pipe line and reservoirs.

At Spearfish, S. Dak., sudden floods pouring down the canyon, at the mouth of which the station is situated, have caused much damage, and have necessitated the expenditure of considerable sums of money. The measures originally taken to prevent such damage having proved insufficient, an old protective channel has been excavated to a depth of 8 feet and a width of 15 feet, and walls have been constructed of solid masonry for a large portion of the distance, with retaining walls where necessary. Besides the danger of floods from the canyon, the lower part of the grounds, including the pond system, is subject to overflow from Spearfish Creek, and to guard against this, 90 feet of stone wall was built. This wall, however, with a new bridge, was washed away during the extreme high water last spring. The water supply has been increased by the erection of a new cement dam which

will open up a series of springs near the head of the canyon, and the reservoir has been lowered 8 feet to accommodate this extra supply. Much grading about the grounds and reconstruction of roadways has been necessitated by these changes.

At the fish ponds in Washington, which are in the park system, much has been done toward beautifying and improving the grounds to bring them into accord with their surroundings, and this work is still in progress. The ponds have been altered to meet the present requirements, and the supply and waste-pipe system has been modernized. A triangular frame storage building 58 by 51 by 50 feet has been erected, containing much-needed workrooms and storerooms.

At Nashua, N. H., direct connection has been made with the city water system for protection against fire and to afford an emergency supply for the ponds, hatchery, and other buildings. Sewers have been laid, the piping system in the hatchery augmented, and all the buildings put in good repair.

At Northville, Mich., a series of 5 ponds, covering about 3 acres, has been sufficiently completed to allow the propagation of small-mouth bass to be begun; the capacity of the hatchery for lake-trout eggs has been increased to 35,000,000 by the installation of more hatching troughs, additional pipe lines have been laid to the hatchery and ponds, and the drainage system has been enlarged.

At Bozeman, Mont., a hot-water heating plant has been installed in the hatchery, and other needed improvements are being prepared for.

At Leadville, Colo., a 12-inch pipe line has been laid from Upper Evergreen Lake to the hatchery for the purpose of obtaining a new water supply, the former one not being sufficiently pure and being also subject to extreme changes of temperature.

OPERATIONS OF VESSELS.

Steamer Albatross.—On July 2, 1903, having on board the special commission to inquire into the conditions and needs of the Alaska salmon fisheries, the vessel left Port Townsend for southeast Alaska, where the investigation was begun at Boca de Quadra Bay. It was desired to visit as many of the fisheries as time would permit, and the itinerary embraced the island passages in the vicinity of Metlakahtla and Loring, and extended northward via Wrangell, through Stephens Passage and Lynn Canal, to Skagway, returning by way of Dundas Bay through Chatham and Peril straits to Sitka. Thence the vessel proceeded across the Gulf of Alaska to Afognak Island, Kadiak Island, and the Shumagin Islands, Chignik Bay, Yakutat Bay, and back to Sitka.

Shore parties visited canneries and salteries throughout the region under investigation, and examined the streams and lakes with reference to biological conditions as well as the commercial aspects of their fisheries, while dredgings and collections were made by the ship and important material and data were obtained in the shore and deeper waters. The Shumagin Islands were visited for the purpose of determining the desirability of inaugurating cod hatching at that point, and during a few days' delay at Skagway a party explored the headwaters of the Yukon for the purpose of making collections and gaining information respecting the ascent of salmon in that river. On the return voyage from Sitka a number of canneries omitted during the

northern trip were inspected, the vessel reaching Seattle September 9 and San Francisco September 24. From that date until February 17 the vessel was in port, during which time repairs were made and an engine and boiler were installed in a new steam launch.

On February 17 the *Albatross* left San Francisco to take part in a study of the fishery resources of the California coast, instituted by the Bureau in cooperation with Leland Stanford University and the University of California. The end in view was the exploration and development of the fishing banks, and operations were carried on in the vicinity of San Diego Bay, Cortez Banks, Santa Catalina Island, and Monterey Bay. The ship was continually engaged in collecting with intermediate and surface apparatus, and in making extensive dredgings and soundings about the regions under investigation. A line of dredgings was run 200 miles west from San Diego to the 2,000-fathom curve and off Monterey to the 1,000-fathom curve. The work was brought to a close in June, and the vessel started for San Francisco, where she arrived on the 15th of the month.

Steamer Fish Hawk.—At the beginning of the year the *Fish Hawk* was undergoing repairs at Camden, N. J. These completed, she went to Woods Hole, Mass., arriving July 19, from which time until September 11 she was occupied with duties in connection with the biological laboratory of the Bureau, her work consisting chiefly of a systematic series of dredgings through Vineyard Sound between Nobska Point and Gay Head. At the close of the laboratory season the vessel sailed for Washington, going thence to Baltimore on October 8 for some minor refitting. She was engaged for a short period in the spring, beginning March 16, in the hatching of yellow perch at Chestertown, on the Chester River, Maryland, and on April 29 began the usual shad operations on the Delaware River, at Gloucester City, N. J.

Schooner Grampus.—This vessel was engaged from the beginning of the year until August 8 in collecting egg-bearing lobsters along the Maine coast to supply the hatchery at Gloucester, Mass. On October 5, after being docked and painted, she began the collection of brood codfish on the fishing grounds about Nantucket, No Man's Land, and Block Island, continuing until about the middle of November, when she was laid up for the winter and her crew detailed to assist in the collection of cod eggs for the Massachusetts hatcheries. In April the collection of lobsters for the present season was undertaken, and the vessel was thus engaged at the end of the year.

General.—Besides the usual minor repairs and renewals necessary to keep the smaller craft of the Bureau in good condition, more extensive alterations were made to some of the boats. The steamboat *Curlew*, attached to the Iowa station, was made more available for night work, which is often required, by the installation of electric light and searchlight, and by the extension of the deck house to afford sleeping quarters for the crew. A new boiler has been furnished the launch *Petrel*, and her machinery and hull have been thoroughly overhauled. New copper tanks have been put in the steamer *Phalarope*, and needed alterations have been made in the arrangement of engine room and cabin. Two new gasoline launches, 30 and 25 feet long, respectively, have been purchased, one for use at North McGregor, Iowa, in the collection of river fishes, and the other at Swanton, Vt., in extension of the sturgeon work.

INQUIRY RESPECTING FOOD-FISHES AND THE FISHING GROUNDS.

Attention is directed to the appended detailed report on the work of the division of inquiry respecting food-fishes and the fishing-grounds. This important branch of the Bureau deals with the biological questions which arise in connection with the economic fisheries and fish culture. It is particularly concerned with the exploration of lakes, streams, and salt waters; the study of the habits, growth, and distribution of fishes and other aquatic animals; the experimental cultivation of desirable products not now the objects of cultivation, with a view to developing methods that may be applied on a wholesale basis; the investigation of the diseases of fishes under cultivation and in a wild state, the pollution of waters in its effect on fish life, and the encouragement of biological research in the Bureau's laboratories and field operations.

The special commission for the investigation of the salmon fisheries of Alaska, to which reference was made in the last report of the Bureau, concluded its labors in the fall of 1903, and shortly thereafter a preliminary report was submitted, embodying the general results of the investigation and making recommendations for the protection and promotion of the fisheries. This report was forwarded to the Secretary November 13, 1903, by him presented to the President on January 21, 1904, and by the President transmitted to Congress on January 27, 1904, and printed as House Document No. 477, Fifty-eighth Congress, second session. The most important recommendations of the special commission are the establishment of Government salmon hatcheries under the control of the Bureau of Fisheries, and the placing of all matters relating to the fisheries of Alaska under the direction of the Bureau.

Among the numerous special subjects which have been under consideration with reference to economic questions are the oyster, sponges, blue crab, diamond-back terrapin, green turtle, and various fishes. The experiments in the artificial fattening of oysters and the cultivation of sponges from cuttings have continued with satisfactory results. The raising of the diamond-back terrapin and the green turtle from the egg is receiving attention at points in Chesapeake Bay and on the coast of Florida. States in which inquiries have been made as to the fishery resources of particular waters are Maine, North Carolina, Indiana, California, and Arizona.

STATISTICS AND METHODS OF THE FISHERIES.

The work of the division of statistics and methods of the fisheries affords the only basis for determining the condition and trend of the commercial fisheries of the country; it is an invaluable criterion of the necessity for and the results of fish-cultural operations of the Government and States, and is indispensable in furnishing a basis for legislation.

The results of the inquiries in different regions with reference to the extent, condition, and methods of their economic fisheries, and of the investigation of special branches of the fishing industry to which

attention has been given during the year are shown in the appended report of the assistant in charge. General canvasses have been conducted in the New England, South Atlantic, and Gulf States, and the Hawaiian Islands, and special inquiries have been made into the condition of the vessel fisheries centering at Boston and Gloucester, Mass.; the fisheries of the interior waters of Florida; interior lakes and streams of New York and Vermont; the Pacific cod and halibut fisheries, and the whale fishery centering at San Francisco. There have also been very complete canvasses of the statistics and methods of the salmon industry of Washington, Oregon, California, and Alaska in conjunction with the work of the special salmon commission.

MISCELLANEOUS ADMINISTRATIVE AND OTHER MATTERS.

CHANGES IN PERSONNEL.

In the death of Mr. Cloudsley Rutter, which occurred November 28, 1903, the Bureau has lost the services of a very conscientious and efficient assistant. Mr. Rutter became connected with the Bureau in 1897 as scientific assistant, and at the time of his death was naturalist of the steamer *Albatross*. He took an active part in biological investigations on the Pacific coast, and his work on the salmon added much to the knowledge of the habits of those fishes. Mr. Rutter was succeeded by Mr. F. M. Chamberlain, general assistant on the *Albatross*.

The Bureau has lost another valued employee, Capt. S. J. Martin, whose death occurred June 10, 1904. Since 1888 he had rendered faithful service at his home in Gloucester, Mass., in collecting statistics of the important fisheries centering there.

Mr. William Barnum, an employee of the Bureau since 1891, and for many years editor of the Bureau's publications, resigned February 12, 1904, to take the position of chief clerk of the Carnegie Institution.

At the request of the minister of the Argentine Republic, transmitted through the Department of State, Mr. John W. Titcomb, assistant in charge of fish-culture, was granted leave of absence without pay for nine months beginning September 1, 1903, in order to make arrangements to inaugurate fish-cultural work on the part of the Government of that country.

Mr. E. A. Tulian, for a long time superintendent of the hatchery at Leadville, Colo., resigned in order to take fish eggs to Argentina and to accept permanent service with that Government with the title national fish-culturist of the department of agriculture.

Mr. J. Frank Ellis, superintendent of the car and messenger service, was appointed assistant in charge of fish-culture for the period of Mr. Titcomb's absence.

On September 1, 1903, Mr. E. E. Hahn, who had served on the schooner *Grampus* since September, 1887, as mate and captain, was detached to take charge of the new station in course of construction at Boothbay Harbor, Maine. Captain Hahn was a thoroughly competent and efficient officer, a practical fisherman of great experience, a proficient fish-culturist, and his services on the *Grampus* have been invaluable to the Bureau. Mr. G. F. O. Hanson, first mate, was appointed to the command of the *Grampus*.

Mr. John N. Cobb, statistical field agent, resigned June 30, 1904, to accept the position of assistant inspector of salmon fisheries of Alaska.

PUBLICATIONS AND LIBRARY.

The demand for the publications of the Bureau is increasing yearly, and the supply of many of the bound volumes and pamphlets has become exhausted. Much of the matter printed by the Bureau is of permanent interest, and requests for special articles continue for years. The second edition of the very popular and useful "Manual of Fish Culture" has been entirely distributed, and a new edition, with revisions, is much needed. There have been sent out to regular recipients and on the application of Congressmen and others 1,797 bound volumes and 20,192 pamphlets.

During the year the bound volume of the report for 1902 was issued, together with the following extracts in pamphlet form from the reports and bulletins for 1902 and 1903:

Description of a new genus and two new species of fishes from the Hawaiian Islands. By David Starr Jordan and Barton W. Evermann. Bulletin for 1902.

The fresh-water fishes of western Cuba. By Carl H. Eigenmann. Bulletin for 1902.

The organ and sense of taste in fishes. By C. Judson Herrick. Bulletin for 1902.

Rotatoria of the United States. II. A monograph of the Rattulidæ. By H. S. Jennings. Bulletin for 1902.

The plankton algae of Lake Erie, with special reference to the Chlorophyceæ. By Julia W. Snow. Bulletin for 1902.

Description of a new species of darter from Tippecanoe Lake. By William J. Moenkhaus. Bulletin for 1902.

Notes on some fresh-water fishes from Maine, with description of three new species. By William Converse Kendall. Bulletin for 1902.

Habits of some of the commercial cat-fishes. By W. C. Kendall. Bulletin for 1902.

A more complete description of Bacterium truttæ. By M. C. Marsh. Bulletin for 1902.

Report on collections of fishes made in the Hawaiian Islands, with descriptions of new species. By O. P. Jenkins. Bulletin for 1902.

The sponge fishery of Florida in 1900. By J. N. Cobb. Report for 1902.

Aquatic products in the arts and industries. By C. H. Stevenson. Report for 1902.

The utilization of the skins of aquatic animals. By C. H. Stevenson. Report for 1902.

List of the common names of the basses and sun-fishes. By Hugh M. Smith. Report for 1902.

The fisheries and fish trade of Porto Rico. By W. A. Wilcox. Report for 1902.

Statistics of the fisheries of the Middle Atlantic States. Report for 1902.

Records of the dredging and other collecting stations of the U. S. Fish Commission steamer *Albatross* in 1901–2. Report for 1902.

Isopods collected at the Hawaiian Islands by the U. S. Fish Commission steamer *Albatross*. By Harriet Richardson. Bulletin for 1903.

Birds of Laysen and the Leeward Islands, Hawaiian Group. By Walter K. Fisher. Bulletin for 1903.

Notes on a porpoise of the genus Prodelphinus from the Hawaiian Islands. By Frederick W. True. Bulletin for 1903.

Supplement to list of publications of the United States Fish Commission available for distribution. Report for 1902.

A catalogue of the shore fishes collected by the steamer *Albatross* about the Hawaiian Islands in 1902. By John Otterbein Snyder. Bulletin for 1902.

Notes on fishes collected in the Tortugas Archipelago. By David Starr Jordan. Bulletin for 1902.
Report of the Commissioner for the year ending June 30, 1903. By George M. Bowers.
Records of the dredging and other collecting and hydrographic stations of the U. S. Fisheries steamer *Albatross*. By Harry C. Fassett. Report for 1903.

The Museum of Comparative Zoology, Cambridge, Mass., has published as Volume XLIII of its Bulletin, "Reports on the Cephalopoda," by William E. Hoyle, based on collections made by the Fisheries steamer *Albatross* on its cruises to the west coast of Mexico, the west coast of Central America, and the Galapagos Islands, in 1891, and to the tropical Pacific Ocean in 1899–1900.

The library of the Bureau in Washington is gradually being made more complete in literature pertaining to fishing, fish-culture, aquatic biology, angling, oceanography, and related subjects. During the year the additions numbered 111 bound volumes and 369 unbound volumes and pamphlets. Excellent working libraries have been maintained at the laboratories at Woods Hole and Beaufort.

THE AMERICAN FISHERIES SOCIETY.

This representative society, composed largely of national and State officials devoted to the promotion of the fisheries, the cultivation of food and game fishes, and the protection of aquatic animals, met in annual session at the station of the Bureau of Fisheries at Woods Hole, Mass., July 21–23, 1903, George M. Bowers, United States Fish Commissioner, being president. An interesting series of papers was presented and discussed, and a prominent feature of the proceedings was the dedication of the memorial to Prof. Spencer F. Baird, provision for which was made by the society at its meeting at Woods Hole in 1901. The memorial consists of a large granite bowlder with suitably inscribed bronze tablet, and was set up in a conspicuous place on the lawn of the Woods Hole station. Special exercises attended the unveiling and dedication of the memorial, and addresses were made by Prof. W. K. Brooks, Mr. E. W. Blatchford, Mr. Livingston Stone, and Mr. Frank N. Clark.

LOUISIANA PURCHASE EXPOSITION.

The exhibit of the Bureau at the Louisiana Purchase Exposition was duly assembled and installed under the direction of Mr. W. de C. Ravenel, representative of the Government board, and was fully completed when the exposition was formally opened on April 30, 1904. Although Mr. Ravenel had not been connected with the Bureau since February, 1902, he was with the approval of the secretary, asked to continue as representative until the close of the exposition, in view of his efficient services and his familiarity with exposition methods.

The Bureau's exhibit occupies a separate building, adjacent to the main Government building, and is a more complete and attractive display of the kind than has heretofore been made. The aquarium, which is particularly complete in equipment and pleasing in design, has proved one of the leading features of the exposition.

APPROPRIATIONS.

The appropriations for the Bureau of Fisheries for the fiscal year 1904 were as follows:

Salaries	$250,140
Miscellaneous expenses:	
Administration	12,500
Propagation of food fishes	200,000
Inquiry respecting food fishes	22,500
Statistical inquiry	7,500
Maintenance of vessels	45,000
For the establishment of a new station at Mammoth Spring, Ark	25,000
For the purchase of additional land, for improvements, and for completion of stations at—	
Boothbay Harbor, Me	10,000
White Sulphur Springs, W. Va	10,000
Neosho, Mo	12,500
Put in Bay, Ohio	7,500
Duluth, Minn	2,000
Spearfish, S. Dak	10,000
For improvements and completion of stations at—	
Fish ponds, Washington, D. C	7,000
Nashua, N. H	5,000
Erwin, Tenn	6,000
Northville, Mich	5,000
Bozeman, Mont	3,500
Leadville, Colo	3,800
For repairs to steamer *Albatross*	28,000
For purchase of two launches	2,000

A report of expenditures under these appropriations will be made in accordance with law.

GEORGE M. BOWERS,
Commissioner.

The SECRETARY OF COMMERCE AND LABOR.

REPORT ON THE PROPAGATION AND DISTRIBUTION OF FOOD FISHES.

By JOHN W. TITCOMB, *Assistant in Charge.*

GENERAL RESULTS.

The usual work of propagation and distribution of food fishes was prosecuted during the past fiscal year, 44 species receiving attention at the various hatcheries; many of these species and four or five additional were collected from the overflowed lands of the Mississippi and Illinois rivers; and the lobster also was propagated. The total output was 1,267,334,385 fish and eggs, exceeding that for all previous years except 1902.

The total output maintains a more or less constant increase from year to year, but the results from any particular branch of fish-cultural work necessarily vary, owing to seasonal conditions. Shad operations were prosecuted with the same energy as heretofore, but in spite of all possible efforts there was a marked decrease in the number of eggs collected at every station. At Bryan Point this was somewhat compensated for by the fact that the yellow perch work, conducted at the same time, was attended with very good success, over 23,000,000 young perch being hatched and planted in the Potomac River. At Gloucester, N. J., on the Delaware River, where the *Fish Hawk* was engaged in the collection of shad eggs, the season was especially poor for the commercial fishermen and but few ripe shad were caught. The natural spawning grounds on the Delaware appear to have undergone an entire change, and Howells Cove, one of the best spawning grounds on the river a few years ago, which yielded in 1901 nearly 50,000,000 eggs, produced the past season 344,000. At Edenton, N. C., the shad season was the most successful in point of egg collections since the establishment of the station. At Battery station, Maryland, at the mouth of the Susquehanna River, about the average number of eggs was taken, the output being 37,397,000 eggs and fry. The total product of this station was materially augmented by the hatching and distribution of 29,850,000 white perch.

The salmon work on the Pacific coast was unusually successful. At Baird, Cal., all previous records were exceeded, the total output, including that of the auxiliary stations, being 66,948,484 eggs and fry. Even more eggs might have been collected had it been possible to secure sufficient men to do the work. The results at Clackamas, Oreg., and its substations likewise exceeded those of all previous years, and the output of Baker Lake station, in Washington, with its

substation at Birdsview, was more than double that of any year in its history. The Baker Lake station is the only one where the blueback salmon can be propagated.

A marked change in sentiment in regard to the artificial propagation of salmon is noted among the Pacific coast salmon fishermen and packers, who are reluctantly yielding their prejudice, and it is interesting to note that fishermen who refuse to acknowledge the beneficial effects of the work are frequently found basing their plans upon the run of fish expected as the result of certain plants made from the hatcheries. It appears that a few years ago they depended very largely upon the July run as the mainstay of their business, the August run furnishing a flabby and inferior fish. In the past two years there has been a small July run and the increasing run through August and into September has been of the same quality as were the fish which formerly were taken in July. The fishermen, therefore, believe that the change has been brought about by artificial propagation, and go into considerable detail to follow out their reasoning.

The striped bass work, taken up experimentally during the fiscal year 1903 at Weldon, N. C., with such encouraging results, was conducted on a much larger scale and with sufficient success to warrant extending the field of operations, if it is possible to find places where spawning fish can be obtained in sufficient numbers. For the purpose of collecting eggs from fish caught by local fishermen 9 field camps were established along the banks of the Roanoke River between Roanoke Rapids and Halifax, N. C., a distance of nearly 20 miles. Although the run of fish is said to have been several times smaller than was ever before known, the results were most satisfactory, a total of 13,683,000 eggs being taken and yielding 7,219,000 fry. The output of the station was not as large as was anticipated, there being a loss of fry due to the fact that certain features of the hatching apparatus were special and not fully perfected when the operations began. The defects were remedied as soon as discovered, however, and another season no such loss will occur.

The output of Atlantic salmon depends very largely upon the amount of money invested in adult fish, within the limits of the market supply. At the Craig Brook station in Maine the salmon obtained by purchase from the owners of the various weirs in the towns of Verona and Penobscot during the preceding June and retained until ripe produced 3,484,000 eggs and were then liberated. The feature of this work to be noted is that it is evident the commercial salmon fishery on the Penobscot is maintained entirely by artificial propagation, few, if any, of the adult fish being able to escape the weirs and reach the natural spawning grounds. Most of the eggs taken for the hatchery, after being sufficiently developed to bear the journey, the last 18 miles of which was made on sleds, were transferred to a substation recently established for this purpose at Little Spring Brook, on the upper Penobscot River, and the fry were scattered in the east branch of that stream. In other words, the distribution, which has heretofore been effected by transporting the fry in cars, was made this year practically in the form of eggs, the special object of the change being to hatch and plant the young fish at points much nearer their natural home in the headwaters of the river than is possible when they are hatched at Craig Brook. Here the parent fish would

undoubtedly have spawned had they been able to pass the many devices set for their capture in the lower reaches.

The importance of establishing a subsidiary station on the upper Penobscot was regarded as paramount to the operating of the Grand Lake Stream station, where eggs of the landlocked salmon are collected. As a result, there was a falling off in the total output of landlocked salmon, but the Green Lake station produced a large quantity of this valuable species. The demand for landlocked salmon within the limits of Maine, where nearly all the eggs are collected, and also in other States where this fish has been successfully acclimatized, exceeds the supply, and an attempt will be made to increase the output during the coming year.

Although cod propagation was prosecuted vigorously, the results were extremely unsatisfactory. The exceedingly cold and stormy weather, together with the scarcity of fish from the inshore fisheries, offset the efforts of the collecting force, and many of the commercial fishermen found it not worth while to keep their boats in commission.

At Woods Hole the collection of eggs of the winter flounder was not undertaken at the usual season because the fishing grounds were covered with ice. When the ice disappeared it was found that the low-water temperatures had retarded the spawning of the fish for a month, and the season's work in this branch was very satisfactory.

At the end of the season several small lots of pollock eggs were received, which produced 1,246,000 fry.

The following innovation in lobster culture is worthy of note: As an experiment 7,081 seed lobsters were impounded and retained throughout the winter. In the spring, although only 4,748 remained, all of these produced eggs except 630. The pound was leased with the idea that the Boothbay hatchery would be ready to receive the eggs, but it became necessary to transfer the fish-cultural operations to Gloucester temporarily, and as a result the Gloucester station was enabled to distribute 97,200,000 lobster fry, the largest product of this species in the history of the station. While the mortality among the lobsters in the pound was great, the unusually severe winter was particularly unfavorable for the experiment, conducted as it was in a small shallow pound. Persons in Portland and Boston who impound lobsters on the coast of Maine reported an unusually heavy loss in stock and attributed it to the intensely cold and stormy weather.

More than three-fourths of the lobsters impounded for this experiment were of Nova Scotia origin. During the spring months the Maine lobster dealers send both sailing and steam smacks to Nova Scotia to secure cargoes, and this work is continued until June, when interrupted by the close season in Nova Scotia. Upon arrival on the Maine coast nearly all of the lobsters are impounded and held for the high prices of the summer trade, and as they lay their eggs while confined in the warm water at these inclosures, large numbers of egg-bearing lobsters are taken out. The stock for this experiment was obtained at the time the impounded stock of the fishermen was transferred preparatory to being marketed.

In making the collection of lake-trout eggs in Lakes Superior and Michigan the extremely cold weather and high winds prevailing the greater part of the season frequently prevented the lifting of nets for several days in succession, and considerably reduced the quantity of

eggs collected. Many of the eggs became water hardened before they were fertilized, while others were frosted in the spawning tanks. Another obstacle to the success usually attending this work was the interference of the Michigan game warden, who claimed the right to supervise the Bureau's operations during the close season. It is the practice to employ tugs, engaged in commercial fishing, for the purpose of collecting spawning fish in these waters, and in the controversy the work of these tugs was interrupted for several days. The question was appealed to the courts, which enjoined further interference on the part of the game warden; but the time lost was sufficient to materially affect the quantity of eggs taken.

It is necessary to record also that the output of white-fish on the Great Lakes was much below that of the two previous years. On the other hand, this shortage is largely compensated for in the fact that the output of pike perch exceeded that of any previous year in the history of the Bureau, Put-in Bay station alone producing 244,275,000 eggs and fry.

The work of propagating the small-mouthed black bass, begun last year, has been continued experimentally at several stations with very encouraging results, and it is believed it will be possible another year to meet all demands for this very desirable game fish. Its propagation has now been taken up at Northville, Mich.; White Sulphur Springs, W. Va.; Wytheville, Va.; Cold Springs, Ga.; Erwin, Tenn., and to a small extent at St. Johnsbury, Vt., the waters at all of these points having proved congenial. At some of these stations the large-mouth black bass also was propagated, and at the San Marcos, Cold Springs, Wytheville, and Northville stations the output of both species exceeded that of any previous year. The Tupelo, Miss., station has not yet been completed, but sufficient ponds were constructed to allow of the production and distribution of 13,500 fingerling bass of the large-mouthed species.

The propagation of the eastern brook trout, black-spotted trout, and rainbow trout was conducted on the same lines as heretofore, the output exceeding that of past years. In this connection the stations at Leadville, Colo., and Spearfish, S. Dak., are worthy of special mention, the product of each being far in excess of that of any previous year.

The usual exhibit of fish and other aquatic animals was maintained in the Central Station aquarium, at Washington, D. C., and, although small, continued to be attractive to a large number of visitors daily. In addition, the hatching of shad and various species of trout was conducted on a small scale for exhibition purposes.

ACCLIMATIZATION OF FISH.

The waters in the Black Hills of South Dakota were originally devoid of trout, but they now afford a source for the collection of eggs and contribute to the output of the Spearfish station, though the bulk of the black-spotted trout produced at this station is derived from eggs taken at a subsidiary station in Yellowstone Park. The waters of Colorado furnish another illustration of the successful acclimatization of fish, in the fact that the eastern brook trout has become so

firmly established there that it is now possible to collect more eggs of this species from the natural streams and ponds at the subsidiaries connected with the Leadville station than are collected from any station in the East, where the fish is native.

The demand for rainbow trout has exceeded the supply in some parts of the country where its introduction has been especially successful. It is frequently called for by applicants who want it because it is different from the native species, and it is a favorite for acclimatization in foreign lands. Not far from Paris, France, is a large commercial hatchery devoted entirely to the propagation of rainbow trout, the annual product being 100,000 fish of market size, besides the sale of eggs and alevins for stocking preserves. In some States the acclimatization has not been successful, and this is particularly true of the waters of New England, where many plants have been made and have resulted in the production of only a few adult fish. With the exception of some lakes in Massachusetts, it is not known that the rainbow trout has obtained a sufficient foothold in any New England waters to maintain itself by natural reproduction. Enduring as it does a somewhat higher temperature than the native trout, it was hoped it would succeed in waters which, owing to the deforestation or other causes, have become unsuited to the latter.

The successful acclimatization of the steelhead trout in Lake Superior and other inland waters makes it desirable to propagate this species on a larger scale. The latest reports from Lake Superior give information that the steelheads spawned last spring in nearly all of the tributary streams along the north shore of the lake.

The landlocked salmon has been successfully introduced in several ponds in Maine where it is not indigenous, and in Pierce Pond with marked results. This pond is 9 miles long, about three-fourths of a mile in width, and over 100 feet deep in places, and is practically landlocked. The plant was made eight years ago and forgotten until the summer of 1903, when one specimen was caught weighing 16½ pounds, one 14 pounds, several 12 pounds, and some 9 and 7 pounds. Quite a number weighing 5 pounds were caught, and these were the smallest taken. When the above information was received, these salmon were said to be quinnats, the result of plants made nine years ago, but an investigation has demonstrated that the introduction of the quinnat salmon proved a failure. It would be interesting to learn the results of a similar investigation of the reported success in acclimatization of quinnat salmon in certain fresh-water lakes in France.

FISH-CULTURAL NOTES.

In addition to the regular work of propagation, fish-cultural experiments have been conducted at various points.

It being a recognized fact that landlocked salmon from Green Lake, Maine, have a much greater average weight than those from Grand Lake Stream, it was determined to compare the rate of growth by carrying through the season at the Craig Brook station parallel series of fish from these waters. It was shown that under similar conditions, and with the same water supply for a given length of time, landlocked salmon of Green Lake grew more rapidly than those of

Grand Lake Stream; the Green Lake fish also showed greater endurance, there being a smaller mortality among them than among the Grand Lake Stream lot.

For observation and experiment in the domestication of landlocked salmon, one brood hatched from the eggs of 1899 was maintained in the most capacious pond available, and a special study was made of the development of the reproductive organs and the character of the offspring. The lot comprised 173 fish, confined in a pond with an area of 45 by 60 feet and a mean depth of about 6 feet, and in November, 1903, they yielded 9,000 eggs, from which 4,930 fry were hatched in April and May. The parent fish had been dieted several months preceding their spawning, being fed very sparingly for a time and at last subjected to a lengthy fast, but this did not suffice to insure prime quality in the eggs, which distinctly lacked normal vigor. It has been suggested that to secure good results it may be necessary to supply a more natural food than the hogs' plucks, on which the fish have subsisted all their lives. Another brood of landlocked salmon hatched in 1901 is held, to secure data as to the comparative rate of growth and eventual size of fish derived from Grand Lake Stream and Lake Auburn.

A small number of albinos was discovered among the landlocked salmon hatch of 1903, and at the end of the year these fish were apparently healthy and vigorous, 25 remaining out of the original 28.

At the Baker Lake station, in Washington, it has always been a very difficult matter to trap the fish which pass through the lake and ascend the tributary streams to spawn, owing to the fact that these tributary streams are of glacial origin, flow through a narrow gorge, and are subject to such tremendous floods that no fish racks can withstand them. Upon the recommendation of the superintendent a trap similar to that used on Puget Sound was conveyed in sections over a pony trail to the lake, put together, and set up in a depth of from 1 to 60 feet at low water, the piling and webbing being made 15 feet above low-water mark to insure the capture of fish during high water. It was set at the outlet of the lake, and although not installed before the run of fish had begun, its practicability was demonstrated and the product of the station was doubled. Still greater results may be expected the coming season.

As the fish were caught when entering the lake, most of them were unripe. Two inclosures were therefore constructed for holding the unripe fish—one of webbing and piles 100 feet wide by 200 feet long, with an average depth of 6 feet during low water; for the other a slough which flows into the lake was utilized. This slough has a large and constant, though very sluggish flow of water through it, and contains deep holes. There was no apparent difference in the quality of the eggs, but the fish held in the former inclosure were continually working against the webbing and became more or less fungused. This was especially noticeable among the male fish, many of which became caught in the webbing by their teeth. The fish in the slough inclosure lay quietly in the deep holes, making no effort to escape, and were in perfect condition at the time of spawning. Many of the fish were thus held for two months, and there was no apparent difference between their eggs and the eggs of those which were found

ripe and stripped immediately after being caught. This is the first occasion on which the Bureau has been successful in the penning of the Pacific coast salmon for an extended period, but it must be borne in mind that the water at Baker Lake is always at a much lower temperature than the water at any other station where salmon operations are conducted.

The method of killing and bleeding the fish by cutting off their tails before taking the spawn has been adopted at this station, and the use of a normal salt solution for washing the eggs has not been found necessary if the fish are properly bled.

The method of taking spawn at the Clackamas hatchery and its substations was similar to that of previous years, but several experiments were tried to test the efficacy of bleeding the fish prior to taking the eggs, and the advantage of this method, if any, over the use of a normal salt solution for washing the eggs. Experiments were also made to determine whether or not eggs should be washed before they are transported. A million eggs were taken by killing the fish and extruding the eggs by hand pressure; the eggs were then washed and fertilized, and they hatched with a loss of 10.6 per cent. Six hundred and eleven thousand eggs were taken by killing the females, bleeding by cutting off the tail, pressing the eggs out by hand, and washing them with a normal salt solution. This lot hatched with a loss of 18.7 per cent. Two million six hundred and fifty thousand eggs were taken by killing the fish, bleeding them by cutting off the tail, pressing the eggs out by hand and fertilizing without washing. These hatched with a loss of 9.9 per cent. Seven hundred and fifty-four thousand eggs were taken from fish which were killed and not bled, the eggs being taken by incision and washed in a normal salt solution before being fertilized. The loss in this case was 3.8 per cent. Two million five hundred and ninety-three thousand eggs were obtained by killing and bleeding the females, then taking the eggs by incision and washing without the use of the normal salt solution. The loss in hatching amounted to 1.5 per cent. Six hundred and nine thousand eggs were taken by killing and bleeding the fish, taking the eggs by incision, and washing in a normal salt solution. These hatched with a loss of 2.02 per cent. One hundred and seventy-six thousand eggs were taken by incision after killing and bleeding the fish, and washed in a normal salt solution. These hatched with a loss of 1.9 per cent. The experiments were not concluded.

A large number of young salmon, the product of eggs obtained at various substations, were reared to the fingerling stage and marked before being liberated. The adipose fin was removed on all, and in order to identify the different lots the fish hatched at Clackamas were given an additional mark by removing the anterior portion of the dorsal fin. The posterior half of the dorsal fin was removed from the fish produced at Little White Salmon, the anterior half of the anal from those from Mill Creek, California, and the posterior half of the anal fin on the ones from Rogue River. Some of the fish first marked were held over three weeks before being liberated, and their health did not seem at all affected by the mutilation.

Experiments at the Rogue River station, in Oregon, indicate that green eggs can best be transported over the rough roads by transfer-

ring them to canton-flannel trays before the milt has been washed from them.

At the Bozeman station the superintendent continued his experiments in the artificial feeding of grayling fry. Blood was last year regarded as the most desirable food for young fry, and this season's work has confirmed that belief. When the fry were placed in the nursery ponds it was observed that they picked off the small organisms lodged there, and, in imitation of the natural conditions, bunches of water cress dipped in blood and liver emulsion were suspended in the hatching troughs for the fry to feed upon. This device having proved fairly successful, it was adopted in the nursery ponds, which, being supplied with creek water, contained also small crustaceans and other natural food.

At the Wytheville, Va., station some experiments have been made to test the merits of azotine, a stockyards preparation, in comparison with liver as food for trout. By way of preparation the azotine was mixed with wheat middlings in equal parts, cooked into a mush, and before feeding was pressed through a screen. The preparation is nutritious, but unsuited to the delicate stomachs of small fry. After the fish are two or three months old it appears to agree with them when given alternately with liver. The experiments have not been conclusive.

It was noticed at the Put-in-Bay station that the eggs of pike perch which were placed on the batteries where they received the most light and sunshine hatched in less time than those situated in the darker part of the house; it was also noticed that those hatching in the shortest time produced the greatest percentage of fry. No direct experiment was made along these lines, but the difference was sufficient to attract the attention of the superintendent.

It is reported by Mr. Alex. Herbster, of Put-in-Bay, that a pike perch weighing about 8 pounds, in ripe spawning condition, was caught by him with hook and line through the ice on January 14. The earliest previously recorded date for the spawning of pike perch in Lake Erie is in the month of April.

In the striped bass work at Weldon, N. C., the smallest yield of eggs was 14,000 from a 3-pound fish, and the largest was 3,220,000 from one of 50 pounds. The largest yield of eggs previously recorded is 2,200,000 from a fish whose weight is not given. It is reported that there is an early and a late run of striped bass, with color markings and shape so different that all experienced fishermen can easily distinguish them, the two runs being known as "long rock" and "short rock," respectively.

On the 1st of April, 2,770,000 eggs were taken from a flat-fish caught in Woods Hole Harbor. The fish was 18 inches long, 10 inches wide, and weighed 3½ pounds after being stripped. The greatest number previously recorded as having been taken from one fish is 1,462,000, from an individual of about the same size.

The impounding of lobsters throughout the winter was not only a success in the increased product of young lobsters, but it was noticed that the eggs from the impounded lobsters were more fully developed when taken from the pound than were the eggs of lobsters collected elsewhere at about the same time. The eggs began hatching May 21,

fully a week earlier than in any previous season, and three weeks earlier than the other lobster eggs on hand at the same time. The eggs from the impounded lobsters also revealed a more uniform development than the others, quite 75 per cent of these hatching before the others had began to hatch in any quantity. There were also remarkably few bad eggs, the loss being estimated at not over 2 per cent, while the loss in the eggs from other sources ran from 6 to 10 per cent. The greater maturity of the impounded product, as well as the more uniform development, can be accounted for by the fact that these lobsters were in a shallow pound where the water would naturally be of a higher temperature than the deeper waters of the ocean, from which the other lobsters were obtained. The same course of reasoning holds good only indirectly in accounting for the superior quality of the eggs.

OPERATIONS OF THE STATIONS.

The stations and substations at which fish-cultural operations were conducted in 1904, with the persons in charge, are shown in the appended statement. The subsidiary stations mentioned have regularly established plants for the conduct of fish-cultural operations, and in some instances are more productive than the permanent station with which they are connected; none is provided with a personnel, all being operated under the direction of the superintendents of the stations with which they are respectively connected. It is customary to detail some one from the personnel of the regular station to assume direct charge while operations are being conducted at the substation. Several temporary field stations are annually operated from some stations, but these are not given in the following list. In such cases the work is of short duration, with few, if any, permanent fixtures. For illustration, collections of landlocked salmon and brook trout eggs are annually made at several field stations connected with the Green Lake station in Maine; for the St. Johnsbury station large collections of brook trout eggs are made at three small subsidiary stations operated simply during the spawning season and until the eggs are sufficiently well developed to bear transportation to St. Johnsbury.

Stations and substations operated in 1904.

Name and location.	Superintendent.
Green Lake, Me	E. E. Race.
Craig Brook, East Orland, Me	Charles G. Atkins.
Upper Penobscot, Me.	
Nashua, N. H	W. F. Hubbard.
Sunapee Lake, N. H.	
St. Johnsbury, Vt	E. N. Carter.
Swanton, Vt.	
Gloucester, Mass	C. G. Corliss.
Woods Hole, Mass	E. F. Locke.
Cape Vincent, N. Y	Livingston Stone.
Steamer Fish Hawk	J. A. Smith, commanding.
Battery, Havre de Grace, Md	Alexander Jones.[a]
Bryan Point, Md	R. W. Owens.
Central Station, Washington, D. C	John E. Brown.[a]
Fish Lakes, Washington, D. C	C. K. Green.
Wytheville, Va	George A. Seagle.
White Sulphur Springs, W. Va	R. K. Robinson.
Erwin Fishery, Tenn	Alexander Jones.
Cold Springs, Bullochville, Ga	J. J. Stranahan.
Tupelo, Miss	C. P. Henkel.[a]
Edenton, N. C	S. G. Worth.
Weldon, N. C.	
Put-in-Bay, Ohio	S. W. Downing.
Northville, Mich	Frank N. Clark.
Detroit, Mich.	
Sault Ste. Marie, Mich.	
Charlevoix, Mich.	
Alpena, Mich.	
Duluth, Minn	S. P. Wires.
Quincy, Ill	S. P. Bartlett.
Manchester, Iowa	R. S. Johnson.
Bellevue, Iowa.	
North McGregor, Iowa.	
Neosho, Mo	H. D. Dean.
San Marcos, Tex	J. L. Leary.
Leadville, Colo	E. A. Tullian, W. T. Thompson.
Grand Mesa Lakes, Colo.	
Spearfish, S. Dak	D. C. Booth.
West Thumb, Yellowstone Park.	
Bozeman, Mont	James A. Henshall.
Baird, Cal	G. H. Lambson.
Battle Creek, Cal.	
Mill Creek, Cal.	
Clackamas, Oreg	Claudius Wallich.
Little White Salmon, Wash.	
Big White Salmon, Wash.	
Rogue River, Oreg.	
Eagle and Tanner creeks, Oreg.	
Baker Lake, Wash	Henry O'Malley.
Birdsview, Wash.	

[a] In charge.

Fish and eggs furnished for distribution by the stations of the Bureau of Fisheries during the fiscal year 1904.

Station and name of species.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Green Lake, Me.:[a]			
Landlocked salmon	122,500	18,000	818,800
Brook trout	50,000	1,018,065	
Craig Brook, Me.:[a]			
Landlocked salmon		772	28,200
Atlantic salmon	25,500	2,566,716	369,000
Brook trout		313,665	82,300
Nashua, N. H.:			
Landlocked salmon			27,650
Brook trout		348,000	99,424
Rainbow trout			10,824
Lake trout		74,000	
Golden trout		36,000	30
Canadian red trout			13
Grayling		40,000	
St. Johnsbury, Vt.:[a]			
Landlocked salmon			23,190
Brook trout	50,000	1,239,287	
Rainbow trout			27,000
Steelhead trout			36,380
Lake trout		85,000	
Small-mouthed black bass			1,302
Swanton (substation), Vt.:[a]			
Pike perch	5,000,000	31,585,000	
Gloucester, Mass.:			
Cod		35,366,000	
Flat-fish		124,615,000	
Pollock		1,246,000	
Lobster		97,200,000	
Woods Hole, Mass.:			
Cod		44,079,000	
Flat-fish		103,657,000	
Mackerel		324,000	
Lobster		9,682,000	
Cape Vincent, N. Y.:			
Landlocked salmon		9,200	
Brook trout		1,198,600	
Rainbow trout		42,000	
Lake trout		4,470,000	
White-fish		14,800,000	
Pike perch		100,000	
Steamer Fish Hawk:			
Shad	45,000	5,454,000	
Battery, Md.:[a]			
Shad	6,964,000	29,245,000	
White perch		29,850,000	
Striped bass		200,000	
Fish Lakes, Washington, D. C.:			
Black bass			46,874
Crappie			7,812
Cat-fish			900
Central Station, Washington, D. C.:			
Brook trout		54,000	
Rainbow trout		6,150	
Shad		2,062,000	
White-fish		495,000	
Pike perch		2,499,000	
Bryan Point, Md.:[a]			
Shad	1,600,000	27,397,000	
Yellow perch		33,238,000	
Wytheville, Va.:[a]			
Brook trout		10,000	114,485
Rainbow trout	20,000	75,100	107,060
Steelhead			12,000
Black bass			42,097
Rock bass			7,425
White Sulphur Springs, W. Va.:			
Brook trout		413,000	38,748
Rainbow trout		112,383	18,980

[a] In addition to the above, the following transfers of fish and eggs were made:
From Green Lake to other stations, 37,000 landlocked salmon eggs.
From Craig Brook to Nashua for rearing, 48,785 brook trout fry.
From St. Johnsbury to Craig Brook, 400,000 brook trout eggs; to Nashua, 75,000 brook trout fry for rearing to fingerlings.
From Swanton to Cape Vincent, 4,050,000 pike-perch eggs.
From Battery to Central Station, Washington, D. C., 1,188,000 shad eggs for hatching.
From Bryan Point to Central Station, 200,000 shad eggs.
From Wytheville to other stations, 360,000 rainbow-trout eggs.

Fish and eggs furnished for distribution by the stations of the Bureau of Fisheries during the fiscal year 1904—Continued.

Station and name of species.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Erwin, Tenn.:			
Brook trout			39,800
Rainbow trout			53,765
Black bass			2,235
Rock bass			6,970
Bream			15,258
Cat-fish			4,413
Cold Springs, Ga.:			
Black bass			202,800
Crappie			150
Warmouth bass			6,520
Bream			20,660
Cat-fish			8,975
Tupelo, Miss.:			
Black bass			13,500
Edenton, N. C.:			
Shad	4,560,000	1,728,000	
Weldon (substation), N. C.:			
Striped bass		3,698,000	
Put-in-Bay, Ohio:[a]			
Lake trout		884,000	
White-fish	46,280,000	53,250,000	
Lake herring		23,300,000	
Pike perch	82,000,000	139,275,000	
Northville, Mich.:[a]			
Brook trout		830,000	15,000
Rainbow trout		60,000	28,000
Steelhead trout		9,500	49,040
Loch Leven trout		138,000	42
Lake trout	3,010,000		
Small-mouth black bass			15,000
Detroit (substation), Mich.:[a]			
White-fish	14,035,000	28,000,000	
Pike perch	22,495,000	2,300,000	
Alpena (substation), Mich.:			
Lake trout		2,250,000	
White-fish		30,000,000	
Charlevoix (substation), Mich.:			
Lake trout		2,500,000	
White-fish		30,000,000	
Sault Ste. Marie (substation), Mich.:			
Lake trout		1,000,000	
White-fish		10,000,000	
Duluth, Minn.:[a]			
Brook trout		17,000	
Rainbow trout		13,400	
Steelhead trout			48,000
Lake trout	50,000	7,155,000	10,000
White-fish		10,000,000	
Pike perch		3,850,000	
Quincy, Ill.:			
Black bass			49,577
Crappie			15,550
Bream			2,365
Cat-fish			2,053
Manchester, Iowa:[a]			
Brook trout	100,000	156,000	14,950
Rainbow trout	188,500	55,000	116,451
Steelhead trout			10,100
Black-spotted trout			28,000
Loch Leven trout			73
Lake trout			174
Landlocked salmon			100
Quinnat salmon			150
Pike perch		2,100,000	
Yellow perch		25,000	
Rock bass			2,250
Bellevue (substation), Iowa:			
Black bass			9,870
Crappie			2,300
Cat-fish			1,500

[a] In addition to the above the following transfers were made:
From Put-in Bay to other stations, 23,000,000 pike-perch eggs.
From Northville to other stations, 3,305,000 lake-trout eggs.
From Detroit to other stations, 25,980,000 whitefish eggs.
From Duluth to Cape Vincent, 2,793,250 lake-trout eggs.
From Manchester to other stations, 50,000 brook-trout eggs and 421,000 rainbow-trout eggs.

Fish and eggs furnished for distribution by the stations of the Bureau of Fisheries during the fiscal year 1904—Continued.

Station and name of species.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Neosho, Mo.:[a]			
Landlocked salmon			18
Quinnat salmon			3,975
Rainbow trout	500	37,000	70,075
Steelhead trout			25
Grayling			26
Black bass			11,355
Strawberry bass			2,580
Rock bass			29,530
San Marcos, Tex.:			
Black bass			127,625
Crappie			1,079
Strawberry bass			200
Rock bass			9,109
Bream			1,452
Cat-fish			597
Leadville, Colo.:[a]			
Brook trout	341,000	1,074,000	318,840
Rainbow trout	5,000	5,000	42,016
Steelhead trout			8,000
Black-spotted trout	4,000		3,923,634
Grayling		50,000	9
Loch Leven trout			18
Lake trout			33
Spearfish, S. Dak.:[a]			
Brook trout		442,000	1,577
Rainbow trout		2,000	9,000
Loch Leven trout		44,500	2,158
Black-spotted trout	425,000		2,117,000
Bozeman, Mont.:[a]			
Brook trout			94,800
Rainbow trout			40,800
Steelhead trout			55,000
Black-spotted trout	40,000		543,000
Lake trout			2,000
Grayling	334,000	2,553,650	225
Baird, Cal.:			
Quinnat salmon	27,352,850	2,350,130	
Battle Creek (substation), Cal.:			
Quinnat salmon	21,354,255		
Mill Creek (substation), Cal.:			
Quinnat salmon	15,891,249		
Clackamas, Oreg.:			
Quinnat salmon	3,113,000	6,247,247	
Landlocked salmon			13,470
Brook trout		206,069	24,170
Rainbow trout		64,132	7,692
Steelhead trout		15,132	11,090
Black-spotted trout		10,620	36,010
Lake trout		80,280	31,626
Grayling		48,550	
Little White Salmon (substation), Wash.:			
Quinnat salmon	5,287,000	10,426,000	
Big White Salmon (substation), Wash.:			
Quinnat salmon	2,219,000	5,950,800	
Eagle and Tanner creeks (substation), Wash.:			
Quinnal salmon		938,500	
Rogue River (substation), Oreg.:			
Quinnat salmon		9,023,428	
Steelhead trout		8,073	
Black-spotted trout		8,695	
Baker Lake, Wash.:[a]			
Steelhead trout	161,000	70,000	
Quinnat salmon		70,883	
Blueback salmon		3,855,000	
Silver salmon		3,984,645	
Humpback salmon		176,597	

[a] In addition to the above the following transfers were made:
From Neosho to other stations, 141,400 rainbow-trout eggs.
From Leadville to other stations, 350,000 brook trout eggs and 95,000 black-spotted trout eggs; 100,000 rainbow-trout eggs, which were sent to the Argentine Republic, were acquired by exchange with the Colorado Fish Commission, and are not included in the above tabulation.
From Spearfish to Central Station, Washington, D. C., 20,000 black-spotted trout eggs.
From Bozeman to other stations, 160,000 grayling eggs and 20,000 black-spotted trout eggs.
From Baker Lake to other stations, 94,000 steelhead-trout eggs.

DISTRIBUTION.

In the distribution of fish it is the general policy of the Bureau to plant certain species as fingerlings or yearlings at an age of from two to twelve months. This is found especially desirable with such species as the brook trout, but as some of the stations are not adapted for the rearing of trout, owing either to the extreme high temperature of the water in summer or to the presence of bacteria, in these cases the product is planted as fry. At stations where fingerlings and yearlings are reared, it is necessary to reduce the stock to prevent overcrowding as the fish become larger, and in such cases, so far as it is possible to do so, the precaution is taken to select for the earliest distribution waters where the fish will be least preyed upon by the larger fishes and other aquatic animals.

At the stations devoted to the propagation of black bass, much attention has been given to the subject of the age for distribution. From experience thus far, it appears very desirable to distribute the young fish when they are from 1 to 3½ inches in length, beginning the collections for this purpose soon after the young fish have broken up their schools and are scattered along the shores of the ponds. Bass five-eighths of an inch long will eat their young companions, one of this length having been found at the Fish Lakes station choked to death in its attempt to eat a younger fish of its own species. At the San Marcos, Tex., station it is customary to begin the distribution of black bass and other pond fishes in April, continuing throughout the summer.

The commercial species, such as the lake trout, white-fish, pike perch, cod, etc., which are hatched by the hundred million, are necessarily planted as fry, and it is customary to distribute them just before the umbilical sac is absorbed.

The work of distributing the fish collected along the overflowed lands of the Mississippi and Ohio rivers is entirely dependent upon high and low water conditions. During the past year the water was so high throughout the summer that the work of saving fish usually confined and doomed to perish in the lagoons caused by the receding waters was unnecessary. The fish distributed from these collections vary in size from fingerlings to 6 to 8 inches in length. All fish seined from these overflowed lands are either planted in adjacent waters or transported by car to other parts of the country to supply individual applicants for both public and private waters. Preparations were made during the past year for extending this field of operations by the establishment of an additional distributing station at North McGregor, Iowa, for collections in the lagoons along both sides of the Mississippi River from Dubuque, Iowa, to La Crosse, Wis.

In the following tabulation all plants of fish and allotments of eggs are shown by species and waters stocked, the latter being grouped according to States, which are listed in alphabetical order.

Details of distribution.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Shad.			
Connecticut:			
State Retaining Pond, Joshuatown		3,000,000	
Pecks Pond, Stafford		2,770,000	
Delaware:			
Brandywine Creek, Wilmington		3,000,000	
St. Johns Creek, Dover		600,000	
Mispillian Creek, Milford		600,000	
Indian River, Millsboro		1,800,000	
District of Columbia:			
Potomac River, Three Sisters		162,000	
Georgia:			
Flint River, Albany		300,000	
Savannah River, Augusta		1,861,000	
Ocmulgee River, Macon		300,000	
Maryland:			
State Fish Commission, Baltimore	5,989,000	150,000	
Northeast River, Northeast	175,000		
Potomac River off Bryan Point		2,014,000	
Pamunkey Creek		3,655,000	
Piscataway Creek		1,064,000	
Swan Creek		1,963,000	
Broad Creek		1,122,000	
Susquehanna River, Port Deposit		400,000	
Havre de Grace		685,000	
Garrett Island		300,000	
Bush River, Bush River Station		533,000	
Patuxent River, Laurel		750,000	
Patapsco River, Relay		490,000	
Elk Creek, Elkton		533,000	
Chesapeake Bay off Havre de Grace		607,000	
Battery Haul		469,000	
Western Channel		1,148,000	
Massachusetts:			
Parker River, Bayfield		3,300,000	
Parkers Mill Pond, Wareham		295,000	
Assawompsett Pond, Middleboro		2,940,000	
Missouri:			
Louisiana Purchase Exposition, St. Louis	2,400,000		
New Jersey:			
Delaware River, Howells Cove		2,491,000	
Bennetts Fishery		2,063,000	
Gloucester	45,000		
South River, Old Bridge		450,000	
Rancocas Creek, Hartford		450,000	
New York:			
Hudson River, Catskill		3,000,000	
North Carolina:			
Trent River, Pollocksville		300,000	
Great Pedee River, Cordova		300,000	
Cape Fear River, Fayetteville		295,000	
Wilmington		440,000	
Newport River, Newport		390,000	
Lumber River, Lumberton		355,000	
Six Runs River, Clinton		300,000	
Scuppernong River, Columbia		450,000	
Pembroke Creek, Carters Landing		103,000	
Salmon Creek, Avoca		513,000	
Albemarle Sound, mouth of Salmon River	372,000	446,000	
Capehart Fishery	4,188,000		
Pembroke Creek		55,000	
Rhode Island:			
Tributaries of Narragansett Bay, Providence		2,950,000	
South Carolina:			
Catawba River, Catawba Station		240,000	
Pedee River, Pedee		445,000	
Edisto River, Jacksonboro		440,000	
Virginia:			
Chickahominy Creek, Walkers		490,000	
Meherrin River, Emporia		188,000	
Potomac River, Occoquan Bay		4,520,000	
Hunting Creek		3,546,000	
Pohick Creek		2,140,000	
Dove Creek		1,372,000	
Total	13,169,000	65,493,000	

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Brook trout—Continued.			
Massachusetts—Continued.			
Cold Spring Brook, Saundersville		5,000	
Carroll Brook, Saundersville		5,000	
Crosby Brook, Saundersville		5,000	
Stow Brook, Worcester		10,000	
Mill Pond, Gloucester		5,000	
Jemisons Brook, Millburg		5,000	
Michigan:			
Turk Lake Creek, Greenville		10,000	
Stoney Creek, Shelbyville		20,000	
West Branch of Succor Creek, Mayville		10,000	
Hamilton Creek, Mayville		10,000	
Phelps Creek, Mayville		10,000	
Inlet to Phelps Lake, Mayville		10,000	
Herbe Creek, Mayville		15,000	
Tompkins Creek, Mayville		15,000	
Sycamore Creek, Lansing		25,000	
Spring Brook, Novi		10,000	
Minnehaha River, Oden		15,000	
Spring Creek, Iron Mountain		4,000	
Benson Creek, Mount Morris		15,000	
Spring Brook, Milford		15,000	
Trout Pond, New Buffalo		10,000	
Spring Creek, Alpena		15,000	
Tributary of Turtle Creek, Alpena		50,000	
Bigton Creek, Newaygo		30,000	
Safe Harbor Creek, Carsonville		25,000	
Happy Hollow Fish Ponds, Hillsdale		30,000	
Smith and Hale creeks, Emery Junction		25,000	
Gold and Silver creeks, East Tawas		50,000	
Van Wetten Creek, Mikado		25,000	
Pine River and creeks, Lincoln		25,000	
Rapid River, Leetsville		20,000	
Maple River, Pellston		50,000	
Carp River, Carp Lake		20,000	
Johnson Creek, Prescott		25,000	
Hall Creek, Farwell		10,000	
Newton Creek, Farwell		10,000	
Spring Brooks, Clair		20,000	
Dennis Creek, Lake		10,000	
Trout Brooks, Baldwin		15,000	
Bowen and Cedar creeks, Wingleton		15,000	
Trout Brook, Branch		10,000	
Beitners, Anderson, and Fletcher creeks, Grawn		10,000	
Beitners Creek, Traverse City		10,000	
Boardman River, Traverse City		10,000	
Desmond Creek, Barker Creek		10,000	
Mason Creek, Barker		5,000	
Barker Creek, Barker		5,000	
Orr Creek, Ellsworth		8,000	
Wood Creek, Ellsworth		8,000	
Bass Creek, Ellsworth		4,000	
Beaver Creek, Kalega		5,000	
Cedar Creek, Kalega		5,000	
Trout Brooks, Bellaire		20,000	
Fish Pond, Shepardville			7,500
Gaylords Pond, Williamston			7,500
Minnesota:			
Cooks Valley Brook, Wabasha			250
Lake La Valle, Lamoille			800
Clear Creek, Nickerson			250
Poplar River, Lutsen		5,000	
Sucker Brook, Detroit		5,000	
Rocky Run, Carson		6,000	
Talmadge Creek, St. Louis County		5,000	
Moose Creek, Duluth		5,000	
Missouri:			
Louisiana Purchase Exposition, St. Louis			71
Montana:			
Spring Creek, Lewistown			500
East Fork of Spring Creek, Lewistown			3,500
Beaver Creek, Lewistown			3,500
Boyd Creek, Lewistown			3,500
Browns Gulch Creek, Butte			4,500
Ashly Lake, Kalispell			2,000
Little Sheep Creek, Lima			3,000
Fish Pond, Anaconda			500
Elk Lake, Arlee			2,000
Rose Lake, Red Rock			800
Trout Pond, Bozeman			1,000

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Brook trout—Continued.			
Montana—Continued.			
Fish Pond, Gold Butte			1,200
McDonald Creek Lake, Gold Butte			800
Fish Pond, Goodman Siding			500
Rock Creek, Brownes			2,500
Crystal Lake, Sheridan			3,000
Belt Creek, Neihart			3,000
Trout Pond, Laurel			800
American Creek, Harlowton			3,000
East Boulder Creek, Big Timber			5,600
Carmichael Creek, Craig			1,200
Fish Pond, Victor			500
Bozeman			2,000
Reservoir, Hill			800
Little Boulder Creek, Boulder			3,000
North Fork of Sun River, Craig			2,000
Highwood Creek, Fort Benton			800
Nebraska:			
State Fish Commission, Bordeaux Creek, Southbend			800
Niobrara River, Cody		5,000	
State Fish Commission, Southbend	50,000		
New Hampshire:			
Dudleys Brook, Exeter			1,000
Wild Meadow Brook and Pond, Grafton		29,800	5,000
Lake Winnepecket, Warner			1,000
Cole Pond and Brook, Potter Place		8,000	2,800
Mascoma River, Canaan			2,500
Roaring Brook, Winchester			1,994
Mirey Brook, Winchester			997
Head Suncook River, Concord			800
Caesar Brook, Milford			1,000
Silica Bed Brooks, Troy			1,000
Rum Brook, Epping			1,000
Merrie Mio Creek, Sunapee			1,000
Tannery Brook, Manchester		5,000	5,000
Watts and Little Cohass brooks, Manchester			1,000
Peters and Millstone brooks, Manchester			1,000
Harry Brook, Manchester			1,000
James Brook, Manchester		5,000	1,000
Dearborn Brook, Manchester		5,000	1,000
Boyce Brook, Manchester		8,000	1,000
Little Brook, Manchester			1,000
Townsend Brook, Wolfboro			1,000
Little River, Lee			1,000
Dalton Brook, Manchester		8,000	1,000
Peters Brook, Manchester			1,000
Reservoir, Manchester			500
Peters Spring, Manchester			500
Roble Run Brook, Manchester			1,000
Warren Brook, Manchester			1,000
Damons Brook, Manchester		5,000	1,000
Bowmans Brook, Manchester		5,000	1,000
Shingle Brook, Manchester			1,000
Manter Brook, Manchester		8,000	
Stump Meadow Brook, Manchester		5,000	
James and Peters brooks, Manchester		5,000	
Shepard Brook, Manchester		5,000	
Ray Brook, Manchester		5,000	
Dogmond Brook, Manchester		5,000	
Medin Brook, Manchester		5,000	
Farm Brook, Manchester		10,000	
Dumpling Brook, Manchester		5,000	
Christian Brook, Manchester		5,000	
Walkers Brook, Manchester		5,000	
Tannery Brook, Concord			1,000
Dolph Brook, Concord			1,000
Bowboy Brook, Concord			1,000
Clough Brook, Concord			1,000
Eastman Brook, Concord			1,000
Ash Brook, Concord			1,000
Trout Pond, Concord			800
Little River, North Hampton		5,000	1,000
Blodgett Ponds, Wentworth			500
West Branch, Bradford			1,000
California Brook, West Swanzey			997
Shaker Brook, Marlboro			1,000
Blood Brook, West Lebanon			1,000
Tributaries of Souhegan River, Greenwich			1,000
Sandwich Pond, Plymouth		8,000	800
Flowage Brook, Hookset			1,000

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Brook trout—Continued.			
New Hampshire—Continued.			
Tucker Brook, Milford			1,000
Quoquinine Creek, Milford			1,000
Osgood Brook, Milford			1,000
Witch Brook, Milford			1,000
Fish Pond, West Springfield			1,000
Grafton County			800
Loon Lake, Plymouth			800
Emerson Creek, Petersboro			1,000
Slide Brook, Scotts			1,000
Nash Brook, Groveton			1,000
Chase Brook, Nashua			1,000
Trout Pond, Whitefield		10,000	
Rowell Pond, Franklin			500
West Branch, Campton Village			1,000
Brown Brook, Ashland			1,000
Dan Hole Pond, Center Ossipee			995
Flints Creek, Hollis			1,000
Mad River, Campton Village			1,000
Johnsons brooks, Pike Station			998
Alvirne Pond, Nashua		8,000	
Putney Creek, North Weare		8,000	
Lake Sunapee, Newberry			2,495
Birch Brook, Newberry			2,495
Claybank Brook, West Ossipee			1,000
Elmwood Brook, Elmwood			1,000
Ayres Brook, Hudson			1,500
Mountain Lake, Sanbornville			2,464
Gile Ice Pond, Franklin		4,000	
Ponds and brook, Whitefield		10,000	
Laurel Lake, Fitzwilliam		10,000	
Ammonoosuck River, Fabyans			10,000
Trout Pond No. 2, Potter Place		10,000	
Rand Brook, Greenfield		5,000	
Silver Brook, Warner		8,000	
Long Pond, Warner		8,000	
Tilton Brook, East Andover		8,000	
Stevens Brook, Warner		8,000	
Fish Pond, Keene		4,000	
Cole, Onestack, Gage, and Virgin brooks, Concord		12,000	
Boat Meadow Brook, Hookset		8,000	
Ragged Mountain Brook, Potter Place		5,000	
Spring Brook, Nashua		5,000	
Baldwin Brook, Milford		10,000	
New Jersey:			
Bushes Pond, Morris County			400
Rockaway River, Dover			400
Applicant at Branchville	20,000		
New Mexico:			
Byler Spring, Clayton			800
Miller Lake, Clayton			800
Travajos Spring, Clayton			1,500
Apache Spring, Clayton			800
Chama Creek, Chama		25,000	
New York:			
Carleton ponds, Carleton Island		100,000	
Owego Creek, Owego		20,000	
Gollands Pond, Syracuse		10,000	
Loon Lake, Malone		45,000	
Lake Titus, Malone		10,000	
Little River, Benson Mines		100,000	
Wist Creek, Watertown		50,000	
Stockwell and Evans creeks, Watertown		40,000	
Powell and Clarke brooks, Stittville		50,000	
Woodward Pond, Adams Center		10,000	
Hubbard Creek, Carthage		50,000	
Independence Creek, Adirondack Station		10,000	
Pleasant and Chase lakes, Pleasant Lake		85,000	
Marshall Brook, Adirondack Station		10,000	
West Brook, Adirondack Station		10,000	
West Canada Brook, Adirondack Station		20,000	
Hazel and Taylor brooks, Adams		13,000	
Beaver River, Beaver River		50,000	
State Fish Commission, Pleasant Valley Hatchery		103,600	
Caledonia Hatchery		97,000	
New York City Aquarium	5,000		
Applicant, New York	6,000		
Spring Pond, Herkimer		15,000	
West Mill and Sandy creeks, Watertown		100,000	
Stoney Brook, St. Regis Falls		25,000	

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Brook trout—Continued.			
New York—Continued.			
Woods Lake, Northville		35,000	
West Canada Creek, Waterville		30,000	
Schlalons Creek, East Worcester		35,000	
Green Lake, Syracuse		25,000	
Preston Ponds, North Creek			875
Miramitchee Creek, Poughkeepsie			500
Virgil Creek, Dryden			1,000
East Brook, Eastport			1,000
North Carolina:			
West Buffalo Creek, Andrews			500
Big Snowbird Creek, Andrews			500
Little Snowbird Creek, Andrews			500
Santeetla Creek, Andrews			500
Sycamore Creek, Morrisville			875
Shipfords Creek, Davidsons River			900
Pigeon Roost Creek, Mitchell County			10,000
Hollow Poplar Creek, Poplar			2,900
North Dakota:			
Spring Lake, Rugby		6,000	
Spring Pond, Dickinson		5,000	
Ohio:			
Snyder Creek, Mansfield		15,000	
Petersburg Lake, Mansfield		5,000	
Fish Pond, Athens		5,000	
Trout Pond, Mentor		5,000	
Spring Pond, near Cleveland		10,000	
Mad River, Bellefontaine		15,000	
Oregon:			
Spring Branch, Falls City			8,270
Eagle Creek, near Clackamas		12,000	
Mosher Creek, Wasco County			1,500
Mill Creek, Wasco County			1,000
Eight Mile Creek, Wasco County			1,000
Fifteen Mile Creek, Wasco County			1,000
Molton Creek, Umatilla County			3,400
Clatskanine River, Clatsop County			5,500
Clear Creek, Stone		5,069	2,500
North Fork of Santiam River, Lyons		10,000	
Tyghe Creek, The Dalles		10,000	
Butte Creek, Woodburn		10,000	
Clatskanine River, Clatskanine		15,000	
Yaquina River, Albany		10,000	
Lado Creek, Hot Lake		10,000	
McKay Creek, Pendleton		10,000	
Umatilla River, Bingham		10,000	
Spring Lake, Ashland		10,000	
Deer Lake, Oregon City		5,000	
State Fish Commission, Astoria		1,000	
Pennsylvania:			
Hartung Creek, Pottsville			400
Crane Creek, Tremont			900
Adams Creek, Tremont			400
Jeffs Creek, Tremont			600
Goldmine Creek, Tremont			700
Black Creek, Tremont			400
Middle Creek, Tremont			400
Pyne Creek, Tremont			400
Cherry Run, Lock Haven			500
Chathams Run, Lock Haven			800
Hartman Run, Lock Haven			500
Buck Hill Creek, Cresco			400
Otts Run, Riddlesburg			400
Black Lick Creek, Ebensburg			500
Davis Run, Ebensburg			950
Jones Run, Ebensburg			400
Trout Pond, Ebensburg			150
Clear Shade Creek, Johnstown			400
Potter Creek, Currys Station			400
Mountain Stream, Currys Station			400
Meadow Branch, Currys Station			400
Oriental Pond, Fairchance			300
Deer Creek, Shrewsbury			300
Hagermans Run, Williamsport			900
Rock Run, Williamsport			400
Mosquito Creek, Williamsport			900
Dry Run, Williamsport			400
Ashcroft Run, Westover			500
Mattinglys Run, Bedford			500
Blue Spring Run, Milton			300

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
***Brook trout*—Continued.**			
Pennsylvania—Continued.			
Little Chest Creek, Ebensburg			400
Lead Run, Jamison City			400
Trout Run, Jamison City			400
Fishing Creek, Jamison City			400
Breastwork Run, Stoyestown			500
Evans Run, Marietta			400
Buffalo Run, Bellefontaine			800
Spring Creek, Bellefontaine			800
Fishing Creek, Millhall			500
Remington Run, Williamsport			400
Roaring Brook, Nanticoke			400
Pikes Creek, Nanticoke			800
Fades Creek, Nanticoke			400
Black Creek, Nanticoke			400
Huntington Creek, Nanticoke			400
Wapwallopen Creek, Nanticoke			400
Badlocks Run, Nanticoke			400
Hemlock Creek, Nanticoke			400
Mountain Inn Creek, Nanticoke			400
Irish Creek, Paxinos			400
Harveys Creek, Nanticoke			400
Logans Branch, Bellefonte			600
Pine Creek, Andreas			400
Pole Bridge Creek, Laporte			400
Deep Hollow Run, Laporte			400
Starrucca Creek, Starrucca			400
Cony Creek, Starrucca			700
Spring Branch, Willow Grove			1,100
Sandy Run, Fort Washington			400
Penns Creek, Rising Spring			500
Laurel Run, Rising Spring			600
Swamp Hollow Creek, South Danville			600
Little Crossing Creek, Sinking Springs			400
Otts Run, Hopewill			400
Yellow Creek, Hopewill			500
Spruce Run, Mount Pocono			400
Trout Run, St. Marys			500
Fall Run, Nordmont			400
Hunters Run, Nordmont			800
Wilson Run, Penfield			800
Crystal Dam, Minersville			800
Indian River, Minersville			400
Tar Run, Minersville			200
Black Creek, Minersville			400
Buck Creek, Minersville			400
Swatara Creek, Minersville			400
Pulfs Springs, Ambler			800
Fish Pond, Ambler			800
Bunger Springs Pond, Ligonier			800
Bullard Creek, Troy			625
Morgan Creek, Troy			625
Wolf Creek, Mahanoy City			400
Hussosock Creek, Mahanoy City			400
Pine Creek, Mahanoy City			900
Hawks Creek, Mahanoy City			400
Rapplings Creek, Mahanoy City			400
Locust Creek, Mahanoy City			400
Swartz Creek, Pottsville			800
Cold Run, Pottsville			400
West Branch Cold Run, Pottsville			800
Tar Run, Pottsville			800
Hummels Run, Pottsville			800
Black Creek Pottsville			400
Hunters Creek, Nordmont			800
Rock Creek, Nordmont			400
Gansell Creek, Nordmont			400
Sinking Creek, Center Hall			500
Lindemuths Creek, Gordon			500
Big Bear Creek, Hudson			500
Little Bear Creek, Hudson			500
Meadow Creek, Hudson			400
Shades Creek, Hudson			400
Rattling Run Creek, Tamaqua			400
Broad Mountain Creek, Ashland			400
Frackville Creek, Ashland			400
Stormy Creek, Rattling Run			500
Rattling Creek, Rattling Run			400
Black Creek, Rattling Run			500
Bear Run, Bear Run			800

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Brook trout—Continued.			
Pennsylvania—Continued.			
Pringle Creek, Summerhill			800
Laurel Creek, Summerhill			800
Brush Run, Altoona			500
Laurel Run, Huntingdon			500
Stone Creek, Huntingdon			500
Lake Eyr, West Chester			900
Broadhead Creek, Stroudsburg			1,500
Stony Run, Henryville			1,500
Cranberry Creek, Cresco			1,500
Paradise Creek, Mount Pocono			1,500
Bala Farm Pond, West Chester			2,000
Calkins Creek, Honesdale		20,000	
Toms Creek, Bushkill		20,000	
South Dakota:			
East Fork Spearfish Creek, Hanna		10,000	
Rapid Creek, Englewood		10,000	
False Bottom Creek, St. Onge		10,000	
Spearfish Creek, Elmore		10,000	
Beaver Creek, Spearfish		10,000	
French Creek, Custer		10,000	
South Boxelder Creek, Nemo		10,000	
East Fork Spearfish Creek, Englewood		15,000	
Boxelder Creek, Nemo		20,000	
Castle Creek, Rochford		10,000	
Fish Pond, Rochford		4,000	
Little Spearfish Creek, Elmore		10,000	
Whitman Lake, Loyalton			500
Bear Butte Creek, Pluma		10,000	
Squaw Creek, Hermosa		10,000	
Battle Creek, Hermosa		10,000	
South Boxelder, Roubaix		9,500	
Hay Creek, Roubaix		20,000	
Boxelder Creek, Roubaix		11,250	
Elk Creek, Roubaix		10,000	
Bear Butte Creek, Deadwood		10,000	
Rapid Creek, Rapid City		22,000	
Springdale Pond, Rapid City		5,000	
Spring Creek, Rapid City		10,000	
Spunk Creek, Hill City		10,000	
Spring Creek, Hill City		10,000	
Iron Creek, Hill City		10,000	
Pine Creek, Hill City		10,000	
Elk Creek, Piedmont		6,000	
White Clay Creek, Pine Ridge Agency		12,000	
Spring Creek, Whitewood		10,000	
Beaver Creek, Buffalo Gap		15,000	
Water Cress Creek, Spearfish		5,000	
Smith Branch, Spearfish		5,000	
Spearfish Creek, Spearfish		10,000	1,577
Cox Lake, Spearfish		5,000	
Montana Lake, Spearfish		10,000	
Spring Branch and Pond, Piedmont		21,000	
Blackpipe Creek Pond, Galena		5,000	
Elk Creek, Deadwood		10,000	
Tennessee:			
Stony Creek, Hunter			1,000
Roans Creek, Mountain City			9,000
Utah:			
Pincocks Springs, Ogden			2,000
Applicant, Salt Lake City	25,000		
State Fish Commission, Murray	50,000		
Vermont:			
Little Leech Pond, Averill			1,495
Shrewsbury Pond, Cuttingsville			1,495
Simpsonville Brook, Brattleboro			1,000
Frog Pond, St. Johnsbury		15,000	999
Mill Brook, Windsor			1,200
Cleveland Brook, Bethel			1,000
Mud Pond, Randolph			800
Trout Brook, Pittsford			995
Pond and stream, West Hartford			1,600
Brookfield Branch, Randolph			1,000
Tributary of Reach Brook Creek, Essex County		20,000	
Fletcher Brook, Lyndonville		20,000	
Walker Quarry and Stepler Creek, Williamstown		20,000	
Trout Brook, Northfield		15,000	
Wardners Pond, Montpelier		10,000	
Nigger Head Pond, Montpelier		20,000	
Langdon Pond, Montpelier		15,000	

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Brook trout—Continued.			
Vermont—Continued.			
Yatter Pond, Montpelier		10,000	
Bennett Brook, Montpelier		20,000	
Hobart Brook, Montpelier		20,000	
Ice Pond, Brattleboro			1,000
Spring Branch, Randolph			1,000
Jones Brook, Braintree		20,000	1,000
Ballore Creek, Wilmington			990
Mills Brook, Barre		15,000	
Burroughs Brook, St. Johnsbury		15,000	
Spring Brook, St. Johnsbury		5,000	
Watermans Branch, Johnson		20,000	
Tributary of Granby Brook, Gallups		25,000	
Black Pond, Woodstock		15,000	
Cold Brook, Brattleboro		25,000	
Lake Lakota, Woodstock		20,000	
Tucker Brook, Woodstock		10,000	
Salmon Brook, Dummerston		25,000	
Passumsic River, Lyndonville		30,000	
Ferrin Creek, Island Pond		20,000	
Willington Brook, Randolph		15,000	1,000
Pond and brook, Randolph		15,000	
Ayers Brook, Randolph		25,000	
Peth Brook, Randolph		20,000	
Hatch Pond, Randolph		15,000	
Mill Brook, Windsor		25,000	
Williams River, Proctorville		25,000	
West Branch Williams River, Chester		15,000	
South Branch Williams River		20,000	
Whetstone Brook, Brattleboro		15,000	
Marlboro Pond, Brattleboro		10,000	
Coane Brook, Brattleboro		20,000	
Summit Pond, Summit		10,000	
Branch White River, Williamston		25,000	
East Roxbury Pond, Montpelier		10,000	
Amponpanoosic River, Sharon		30,000	
Keyes Brook, Sharon		10,000	
Barney Brook, Westminster		10,000	
Governors Brook, Westminster		10,000	
Mill Brook, Westminster		10,000	
Battenkill River, Manchester		30,000	
Fish Pond and stream, West Hartford		15,000	
Pico Lake, Rutland		24,287	
Darling Pond, Groton		60,000	
Lake Mansfield, Stowe		60,000	
Waterbury		60,000	
Lake Mitchell, West Norwich		140,000	
Darling Pond, Westville		57,000	
State Fish Commission, Roxbury		5,000	
Virginia:			
Snake Den Creek, Hunters			4,000
Matthews Lake, Martinsville			125
Sweet Run, Loudoun County			500
Falls Branch, Oak Ridge			800
Fox Creek, Troutdale			15,200
Tates Run, Wytheville			460
Ogle Creek, Dunlap		45,000	
Tributaries of Difficult Run, Hunters			1,423
Little River, Grayson County			1,000
Falling Spring Branch, Covington		30,000	
Spring Branch, Wrights Siding		5,000	
Laurel Run, Covington		25,000	
Casteel Run, Covington		25,000	
Little Creek, Burkes Garden		5,000	
Washington:			
Wagner Lake, Wilbur			800
Martins Lake, Springdale			800
San Poil Lake, Republic			800
Pond and stream, Newport			1,000
Spring Branch, North Yakima			7,500
Jones Lake, Yakima			500
Fish Pond, Cheney			800
Spokane			500
Valley			500
Bear Creek and French Lake, Milan			1,500
Spring Brook, Milan			1,500
Mirror Lake, Meyers Falls			1,800
Spring Brook, Snohomish		5,000	
Fish Pond, Seattle		8,000	
Summit Lake, Woodenville		5,000	

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Brook trout—Continued.			
Washington—Continued.			
West Fork White Salmon River, Klickitat County		12,000	
Crab Creek, Harrington		10,000	
Arkansaw Creek, Castle Rock		10,000	
Lake Blackman, Snohomish		10,000	
Trout Lake, Spokane		8,000	
O'Brien Creek, Republic		15,000	
San Poil Creek, Republic		5,000	
West Virginia:			
Mountain Creek, Capon Springs			800
Trout Run, Romney			600
Bluestone Creek, Hinton			5,000
Glade Creek, Talcott			5,000
Mill Creek, Alderson			5,000
Fish Pond, Gladwin			200
Haddix Creek, Moore			3,000
Mill Creek, Fayette			3,950
Spring Pond, Eglon			300
Fish Ponds, Eglon			900
Bush Lake, Eglon		18,000	
Meadow Run, Durbin		50,000	5,000
East and west branch of Greenbrier River, Durbin		25,000	4,950
Tygarts Valley River, Grafton			450
Valleyfalls			150
Clover Lick Creek, Cloverlick			2,000
Mouth Cherry River, Curtin			1,000
Cranberry River, Cranberry			2,800
Gauley River, Richwood			2,500
Spring Branch, White Sulphur Springs		73,000	2,000
Howard Creek, White Sulphur Springs			2,348
Small Creek, Gladwin		4,500	
Leetown Run, Shenandoah Junction			400
North Fork Blackwater Creek, Thomas		19,000	
Big Clear Creek, Rupert		50,000	
Meadow Creek, Shryock		25,000	
Milligan Creek, Bungers		15,000	
Head of Glade Creek, Hinton		25,000	
Wisconsin:			
Prairie River, Merrill			500
Beargrass River, Fallcreek			250
Moores Creek, Norwalk			400
Rock Creek, Eau Claire			200
Coon Creek, Eau Claire			200
Fourmile Creek, Barron			250
North Branch, La Crosse			250
Halfway Creek, La Crosse			250
Burham Creek, La Crosse			250
Richmond Creek, La Crosse			250
Sand Creek, Cartwright			250
Hay Creek, Chippewa Falls			250
Beef River, Fairchild			500
Scotts Creek, Fairchild			250
Badleys Creek, Fairchild			250
Beaty Creek, Hixton			300
South Branch Creek, Hixton			300
North Branch Creek, Hixton			300
Tank Creek, Hixton			300
Lome Creek, Hixton			300
Clear Creek, Eau Claire			200
Elk Creek, Eau Claire			450
Otter Creek, Eau Claire			250
Lowes Creek, Eau Claire			250
North Branch Owen Creek, La Crosse			250
Crolls Creek, La Crosse			250
Fishback Creek, La Crosse			250
Krauls Creek, La Crosse			250
Trout Creek, Millston			300
Stony Creek, Millston			250
Cowles Creek, Arcadia			300
Duncan Creek, Chippewa Falls			250
Traves Valley Creek, Independence			300
Douglas Creek, Black River Falls			250
Clear Creek, Black River Falls			250
Roaring Creek, Black River Falls			250
Slauser Creek, Black River Falls			250
Papoose Creek, Black River Falls			450
Van Herset Creek, Black River Falls			250
Town Creek, Black River Falls			200
Squaw Creek, Black River Falls			200
Trout Run, Black River Falls			200
Kenyon Creek, Black River Falls			200

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Brook trout—Continued.			
Wisconsin—Continued.			
Perrys Creek, Black River Falls			200
Allens Creek, Black River Falls			200
Snow Creek, Black River Falls			200
South Branch of Levis Creek, Black River Falls			200
White River, Neshkoro		5,500	
Gilbert Creek, Menomonie		7,000	
Little Elk Creek, Menomonie		5,000	
White River, Wautoma		5,500	
Emmons Creek, Waupaca		4,500	
Pine River, Wildrose		6,500	
Bostwic Creek, La Crosse		3,500	
Chipmunk Creek, La Crosse		3,500	
State Road Cooley Creek, La Crosse		3,500	
Mormon Cooley Creek		5,000	
South Cooley Creek		3,500	
Gills Cooley Creek		3,500	
Halfway Creek, La Crosse		4,500	
Centerville Creek, La Crosse		4,500	
Mormon Spring Creek, La Crosse		3,500	
Adams Valley Creek, La Crosse		3,500	
Dutch Creek, La Crosse		3,500	
Brown Creek, Augusta		4,000	
Sand Creek, Augusta		5,000	
Mullett River, Plymouth		5,000	
Lousy Creek, Menomonie		5,000	
Deer Creek, Durbrook		6,000	
Halls Lake, Alma Center		3,500	
Reefer Creek, Orienta		5,000	
Trout Creek, Alma		4,500	
Irving Creek, Menomonie		6,000	
Applicant, Osceola	20,000		
Wyoming:			
Fish Lake, Gillette			800
Green Mountain Springs, Inyankara			1,500
Sand Creek, Beulah		15,000	
Red Water River, Aladdin		10,000	
Japan:			
British Minister, Tokyo	25,000		
Argentina:			
Argentine Government	100,000		
Total	541,000	7,221,536	842,452
Lake trout.			
Colorado:			
Trout Pond, Glenwood Springs			24
Connecticut:			
State Fish Commission, Windsor Locks	200,000		
Michigan:			
State Fish Commission, Sault Ste. Marie	2,300,000		
Long Lake, Alpena		30,000	
Brush Lake, Hillman		80,000	
Lake Superior, Marquette		1,020,000	
off Long Point, Isle Royale		320,000	
Washington Harbor, Isle Royale		320,000	
Rock Harbor, Isle Royale		280,000	
Todd Harbor, Isle Royale		280,000	
Tobins Harbor		360,000	
Eagle Harbor		320,000	
Ontonagon		640,000	
Fish Island		240,000	
Whitefish Point		500,000	
Lake Michigan, off Charlevoix		1,250,000	
Irishmans Reef, off Charlevoix		1,250,000	
Manistique		500,000	
Lake Huron, off Scarecrow Island		1,090,000	
Presque Isle		550,000	
North Point		550,000	
Minnesota:			
Lake Alexandria, Littlefalls		15,000	
Leech Lake, Walker		25,000	
Lake Superior, Grand Marais		360,000	
Grand Portage		360,000	
Chicago Bay		360,000	
Beaverbay		265,000	
off Poplar River		265,000	
French Creek		180,000	
Two Harbors		180,000	
Mouth of Lester River		100,000	
Duluth			8,200

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Lake trout—Continued.			
Missouri:			
Louisiana Purchase Exposition, St. Louis	.....	.....	181
New Hampshire:			
Partridge Lake, Littleton	.....	15,000	.....
Crystal Lake, West Canaan	.....	20,000	.....
First Connecticut Lake, Beecher Falls	.....	30,000	.....
State Fish Commission, Laconia	100,000	.....	.....
Forest Lake, Littleton	.....	20,000	.....
Loon Lake, Center Ossipee	.....	20,000	.....
Newfound Lake, Bristol	.....	34,000	.....
New York:			
State Fish Commission, Caledonia	200,000	.....	.....
New York City Aquarium	10,000	.....	.....
Otsego Lake, Cooperstown	.....	35,000	.....
Lake Ontario, Trout Hole, off Cape Vincent	.....	1,250,000	.....
off Grenadier Island	.....	1,450,000	.....
Trout Hole, off Charity Shoals	.....	850,000	.....
off Tibbetts Point Light	.....	250,000	.....
off Oneills Point	.....	685,000	.....
Ohio:			
Big Lake, Urbana	.....	.....	1,800
Lake Erie, off Kelleys Island	.....	884,000	.....
Oregon:			
Clackamas River, Clackamas	.....	.....	21,626
Sucker Lake, Oswego	.....	.....	10,000
Jordan and Perkins lakes, Marshfield	.....	20,000	.....
Pennsylvania:			
State Fish Commission, Corry	200,000	.....	.....
Vermont:			
Big Averill Lake, Norton	.....	20,000	.....
Washington:			
Deep Creek Lake, Northport	.....	.....	2,000
Pierre and Summit lakes, Orient	.....	19,980	.....
Stellacoom Lake, Lake View	.....	40,200	.....
Wisconsin:			
Butternut Lake, Three Lakes	.....	10,000	.....
Sugar Camp Lake, Rhinelander	.....	10,000	.....
Lake Superior, off Madeline Island	.....	350,000	.....
Sand Island	.....	316,200	.....
Bark Bay	.....	265,000	.....
Rossport	.....	300,000	.....
Big Creek, Molleyville	.....	2,000	.....
Argentina:			
Argentine Government	50,000	.....	.....
Total	3,060,000	18,486,460	43,831
Golden trout.			
Maine:			
Canaan Lake, Rockland	.....	5,000	.....
Nortens Lake, Rockland	.....	5,000	.....
Moostocmaguntic Lake, Oquossoc	.....	5,000	.....
China Lake, Waterville	.....	5,000	.....
Missouri:			
Louisiana Purchase Exposition, St. Louis	.....	.....	80
New Hampshire:			
Lake Sunapee, Lake Sunapee	.....	16,000	.....
Total	.....	36,000	80
Canadian red trout.			
Missouri:			
Louisiana Purchase Exposition, St. Louis	.....	.....	13
Grayling.			
California:			
State Fish Commission, Sisson	100,000	.....	.....
Colorado:			
South Platte River, Florissant	.....	10,000	.....
Los Pinos Creek, Osier	.....	10,000	.....
South Platte River, Altruria	.....	10,000	.....
Grizzley Creek, Glenwood Springs	.....	10,000	.....
Frying Pan River, Ivanhoe	.....	10,000	.....
Idaho:			
Maize Lake, Hailey	.....	50,000	.....
Crystal Lake, Hailey	.....	50,000	.....
Michigan:			
State Fish Commission, Harris	100,000	.....	.....
Missouri:			
Louisiana Purchase Exposition, St. Louis	38,000	.....	255
State Fish Commission, St. Joseph	46,000	.....	.....

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Grayling—Continued.			
Montana:			
Fish Ponds, Anaconda		150,000	
Flathead River, Kalispell		50,000	
Stillwater River, Kalispell		50,000	
Beaver Creek, Havre		50,000	
Bridger Creek, Gallatin County		100,000	
Lyman Creek, Gallatin County		100,000	
Box Elder Creek, Havre		100,000	
Dupuyer Creek, Conrad		100,000	
Elk Creek and tributaries, Red Rock Lake		1,758,650	
New Hampshire:			
Pond and streams, Potter Place		10,000	
Tributaries of Sugar River, Newport		10,000	
Beaver Brook, West Windham		10,000	
Swift Diamond Creek, Colebrook		10,000	
Oregon:			
South Fork Walla Walla River, Milton		15,000	
North Fork Walla Walla River, Milton		15,000	
Walla Walla River, Milton		15,000	
Collins Creek, Albany		3,550	
Wyoming:			
State Fish Commission, Sheridan	50,000		
Total	334,000	2,692,200	255
Lake herring.			
Ohio:			
Lake Erie, off Middle Island		5,000,000	
Kelleys Island		5,000,000	
Put in Bay		13,300,000	
Total		23,300,000	
White-fish.			
Michigan:			
Crystal Lake, Beulah		1,000,000	
Long Lake, Battle Creek		200,000	
Lake Superior, Marquette		4,200,000	
Ontonagon		4,200,000	
Whitefish Point		9,000,000	
Lake Huron, Sturgeon Point		5,000,000	
Thunder Bay		5,000,000	
North Point		15,000,000	
Scarecrow Island		5,000,000	
Lake Michigan, Charlevoix Reef		23,000,000	
off Fishermans Island		3,000,000	
head of Beaver Island		3,000,000	
St. Marys River, Sault Ste. Marie		1,000,000	
Detroit River, off Belle Isle		27,800,000	
Minnesota:			
Lake Superior, off mouth of Lester River		1,600,000	
New York:			
State Fish Commission, Caledonia	2,000,000		
New York City Aquarium	10,000		
Otsego Lake, Cooperstown		435,000	
Lake Ontario, off Tibbetts Point Light		4,300,000	
Charity Shoals		2,000,000	
Grenadier Island		2,000,000	
Newfound Shoals		2,500,000	
Pigeon Island		2,000,000	
Van Schaick Shoals		1,000,000	
South Bar, West End		1,000,000	
Ohio:			
Lake Erie, Ballast Island Reef, Put in Bay		10,000,000	
near Lutes Point, Put in Bay		10,000,000	
Middle Island, off Kelleys Island		10,000,000	
near Gull Island, off Kelleys Island		5,000,000	
off Kelleys Island		8,250,000	
North Bass Reef, off Put in Bay		10,000,000	
Pennsylvania:			
State Fish Commission, Erie	46,280,000		
Wisconsin:			
State Fish Commission, Mineral Point	10,000,000		
England:			
Applicant, Malvern Wells	25,000		
New Zealand:			
New Zealand Government	1,000,000		
Argentina:			
Argentine Government	1,000,000		
Total	60,315,000	176,485,000	

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Pike perch.			
Connecticut:			
Brookside Lake, Winsted		300,000	
Taunton Lake, Bethel		500,000	
District of Columbia:			
Potomac River, off Three Sisters		833,000	
Indiana:			
West Fork, White River, Indianapolis		1,000,000	
Pretty Lake, Plymouth		300,000	
Pine Lake, La Porte		300,000	
Lake Gage, Angola		600,000	
Crooked Lake, Angola		500,000	
Silver Lake, Angola		300,000	
Stone Lake, Angola		300,000	
Lake Maxinkuckee, Culver		7,700,000	
Goose Lake, Columbia City		200,000	
Pleasant Lake, Pleasant Lake		300,000	
Iowa:			
Upper Iowa River, Chester		800,000	
Cedar River, Waterloo		1,000,000	
Kentucky:			
Kinnikonnick River, Vanceburg		1,000,000	
Appletree Reservoir, Stearns		875,000	
Massachusetts:			
State Fish Commission, Wilkinsonville	5,000,000		
Michigan:			
Lake Antoine, Iron Mountain		300,000	
Pleasant Lake, Edwardsburg		500,000	
Pine Lake, Allegan		300,000	
Long Lake, Manistee Junction		500,000	
Hamlin Lake, Ludington		1,000,000	
State Fish Commission, Detroit	47,495,000		
Minnesota:			
Eagle Lake, Willmar		300,000	
Horse Shoe Lake, Carson		300,000	
Swan Lake, Fergus Falls		200,000	
Long Lake, Fergus Falls		300,000	
White Earth Lake, White Earth		650,000	
Green Lake, Chisago City		300,000	
Missouri:			
Louisiana Purchase Exposition, St. Louis	12,000,000		
State Fish Commission, St. Joseph	10,000,000		
New Hampshire;			
Swanzey Pond, West Swanzey		300,000	
Emerson Pond, Westrindge		300,000	
New Jersey:			
Bear Pond, Netcong		833,000	
New York:			
St. Lawrence River, mouth Scotch Brook		100,000	
North Dakota:			
Cold Lake, Underwood		75,000	
Painted Woods Lake, Washburn		225,000	
Ohio:			
Auglaize River, Wapakoneta		2,500,000	
Tuscarawas River, Isleta		2,500,000	
Muskingum River, Marietta		1,250,000	
Lake Erie, North Bass Reef, off Put-in Bay		25,000,000	
Stones Cove, off Put-in Bay		10,000,000	
School House Reef, off Put-in Bay		15,000,000	
School House Reef, off Put-in Bay		23,400,000	
School House Reef, off Catawba Island		15,000,000	
Niagara Reef, off Port Clinton		15,000,000	
Gull Island Reef, off Kelleys Island		15,000,000	
Pennsylvania:			
State Fish Commission, Erie	35,000,000		
South Dakota:			
Lake Poinsett, Estilline		500,000	
Vermont:			
Rescue Pond, Ludlow		300,000	
Galusha Pond, Montpelier		300,000	
Lake Bomoseen, Fairhaven		500,000	
Derby Pond, Newport		300,000	
Black River, Hardwick		500,000	
Winooski River, Winooski		1,250,000	
Missisquoi River and Bay, Swanton		2,000,000	
Swanton		8,000,000	
High Gate Springs		1,500,000	
Lake Champlain, Missisquoi Bay		3,000,000	
Goose Bay		3,500,000	
Gander Bay		2,000,000	
Swanton		8,285,000	

Details of distribution—Continued.

Species and disposition.	Eggs.	Fry.	Fingerlings, yearlings, and adults.
Pike perch—Continued.			
Vermont—Continued.			
Lake Champlain, St. Albans Bay		2,000,000	
McQuan Bay		1,250,000	
Otter Creek, Vergennes		500,000	
Virginia:			
Meherrin River, Emporia		880,000	
West Virginia:			
Ohio River, Sistersville		1,250,000	
Wisconsin:			
Diamond Lake, Drummond		200,000	
Kleuths Lake, Medford		200,000	
Sackets Lake, Medford		200,000	
Niger Lake, Medford		200,000	
School House Lake, Medford		200,000	
Total	109,495,000	181,706,000	
Yellow perch.			
Iowa:			
Maquoketa River, Manchester		25,000	
Maryland:			
Potomac River, off Bryan Point		878,000	
Swan Creek		1,040,000	
Piscataway Creek		2,275,000	
Pamunkey Creek		3,250,000	
Virginia:			
Potomac River, Little Hunting Creek		2,600,000	
off Dove Creek		3,705,000	
Pohick Creek		2,080,000	
Occoquan Bay		7,410,000	
Total		23,263,000	
White perch.			
Maryland:			
Chesapeake Bay, Battery Shoals		2,450,000	
Western channel		1,500,000	
Eastern channel		9,100,000	
Swan Creek, Swan Creek		14,400,000	
Mill Creek, Mill Creek		1,900,000	
Total		29,350,000	

Species and disposition.	Fingerlings, yearlings, and adults.
Catfish.	
Alabama:	
Fish Pond, Guin	1,000
Hooks	1,000
Arkansas:	
Fish Pond, Johnson	60
Georgia:	
Fish Pond, Flippen	1,000
Lovejoy	1,000
Milner	500
The Rocks	500
Stinson	50
Warm Springs	25
Willacoochee	100
Chipley	50
Malier's Pond, Sunnyside	1,000
Mill Pond, Decatur	50
Lake Mohlgnac, Columbus	150
Little River, Crawfordsville	50
Indiana:	
Fish Pond, Haubstadt	50
Fork of Wild Cat Creek, Rossville	50
Faw Lake, Indianapolis	50
Kansas:	
Fancy Lake, Coldwater	20
Fish Pond, Coldwater	20
Middle Kiowa Creek, Mullinsville	25
Little Driftwood Creek, Kiowa	55
Gungan Pond, Chetopa	20

Species and disposition.	Fingerlings, yearlings, and adults.
Catfish—Continued.	
Kansas—Continued.	
Fish Pond, Wichita	25
Argonia	15
Kentucky:	
Pond No. 1, Beaverdam	50
Dewey Pond, Mentor	48
Fish Pond, Lexington	96
Hunters Depot	50
Louisiana:	
Fish Pond, Crowley	150
Mississippi:	
Adair's Pond, Maben	50
Missouri:	
Fish Pond, Mansfield	30
Louisiana Purchase Exposition, St. Louis	35
North Carolina:	
Trentman Creek, Walnut Cove	200
Catawba River, Mount Holly	200
Nolichucky River, Pigeon Roost	3,000
Fish Pond, Charlotte	200
Burgaw	200
North Dakota:	
Round Lake, Rhodes	360
Curlew Creek, Glenullin	200
Ohio:	
Hoffarths Pond, Delhi	48
Norris Pond, Norwalk	75
Lake Pippin, Akron	75

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Catfish—Continued.	
Ohio—Continued.	
Auglaize River, Wapakoneta	200
St. Joseph River, Montpelier	200
Oklahoma:	
Fish Pond, Okarchee	200
Mulhall	50
Blackwell	20
Stillwater	100
Three Ponds, Oklahoma City	150
Pennsylvania:	
Fish Pond, Washingtonville	275
Chambersburg	50
South Carolina:	
Mill Pond, Greenville	200
Fish Pond, Williston	1,000
Trenton	1,000
Fountain Inn	300
South Dakota:	
Fish Pond, Ipswich	400
Lake Kampeska, Watertown	400
Tennessee:	
Fish Pond, Gibson	150
Medina	50
Collinsville	50
Fayetteville	200
Brentwood	25
Limestone Spring, Mountain City	200
Armstrong Pond, Columbia	25
Spring Branch, Fishery	13
Texas:	
Six Mile Tank, Decatur	100
Fish Ponds, Santa Anna	75
Fair Grounds Pond, San Antonio	100
Railroad Lake, Irene	160
Belle Branch	162
Virginia:	
Andersons Pond, Martinsville	200
Total	17,857
Large-mouth black bass.	
Alabama:	
Fish Pond, Florence	2,000
Allenton	400
Dickinson	500
Brantley	300
Guin	500
Kingston	300
Mobile	500
Cottonton	500
Seale	1,600
Sawyersville	500
Haleysville	500
Fish Lake, Lincoln	1,000
Russellville	600
Birmingham	1,000
McIntosh Pond, Enterprise	700
Little Sniff Lake, Selma	800
Rocky Hill Lake, Courtland	800
Pitts Pond, Pittsboro	500
Whetstone Lake, Montgomery	2,000
Spring Pond, Brantley	500
Hurricane Branch, Atmore	1,000
Beasley Pond, Clayton	500
Coone Pond, Lowndesboro	500
Turners Pond, Selma	500
Lake Como, Birmingham	1,000
East Lake, Birmingham	800
Cypress Creek, Florence	2,000
Sand Cut Pond, Eufaula	500
Ossipeippa Creek, Cusseta	1,000
Phillips Pond, Cuba	500
Spring Branch Pond, Atmore	500
Craddock Pond, Dadeville	500
Edmonds Mill Pond, Ozark	500
Bridges Fish Pond, Jasper	1,000
Woods Pond, Berlin	1,000
Pearces Mill Pond, Seale	800
Eight Mile Creek, Cullman	1,000
Small Creek, Cullman	1,000

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Alabama—Continued.	
Mill Brook, Madison	1,000
Wiggins Spring Brook, Madison	1,000
Clear Creek, Jasper	1,000
Bay Branch Pond, Andalusia	500
Stone Creek, Blount Springs	1,000
Rosemont Pond, Demopolis	200
Sucarnoochee Creek, Livingston	1,000
Crooked Creek, Sylacauga	900
Arizona:	
Silver Creek, Holbrook	100
Morgan Lake, Phoenix	50
La Laguna Pond, Benson	50
Sisson Pond, Safford	40
Jones Reservoir, Safford	40
Fish Pond, Benson	50
Benson	50
Pecks Lake, Jerome	100
Verde River, Jerome	150
San Francisco River, Clifton	150
Arkansas:	
St. Francis River, Pickett	200
Willow Pond, Malvern	80
McHenry Pond, Malvern	200
West Fork White River, Brentwood	250
West Fork White River, Fayetteville	275
Illinois River, Fayetteville	300
Mill Pond, Benton	40
Connecticut:	
Slater Pond, Chester	100
Delaware:	
Mill Lake, Milford	200
Ingrams Mill Pond, Milton	200
Chesapeake and Delaware Canal, Delaware City	200
Denton Fish Pond, Broadkill	200
Fish Ponds, Wilmington	600
Florida:	
Blue Lake, De Land	1,800
Sand Lake, Orlando	200
Cypress Lake, Cypress	150
Dalis Pond, Leroy	500
Fish Pond, Leroy	500
Green Cove Spring	300
Georgia:	
Sun Set Lake, Lakepark	150
Fish Pond, Hephzibah	1,000
Thomaston	500
Milledgeville	100
Jesup	125
Woolsey	200
Summerville	1,300
Comer	500
Paschal	1,000
Nickville	500
Tate	500
Lavonia	500
McDonough	500
Duluth	800
Sycamore	1,000
Cedartown	800
Renfroe	500
Fashion	1,800
Thomaston	800
Eastman	800
Renfroe	500
Clarkesville	1,000
Hall Pond, Thomasville	100
Deep Creek, Clarkesville	400
Sanders Fish Pond, Whiteplains	100
Long Fish Pond, Whiteplains	100
Reservoir, Milledgeville	100
Nelson Mill Pond, Macon	150
Martins Pond, Milner	200
Flint River, Jonesboro	200
Spring Creek, Willacoochee	125
Little River, Buchanan	200
McCalls Mill Pond, Macon	1,000

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Georgia—Continued.	
Stephens Pond, Kite	800
Branch Pond, Tarrytown	500
Branch Head Pond, Higgston	800
Crystal Lake, Tunnelhill	1,500
Town Creek Pond, Oglethorpe	800
Kings Pond, Cussetа	200
Carr Mill Pond, Zenith	1,000
Tallapoosa River, Carrollton	2,000
Fish Lake, Summerville	1,000
Spring Lake, Catoosa County	1,000
East Branch, Harrel Creek, Mountairy	1,000
Mill Pond, Tunnelhill	1,500
Barnes Pond, Harris	500
Williams Creek, Lyons	1,000
Sterns Pond, Williamson	800
Wildwood Lake, Columbus	800
Waterworks Pond, Columbus	800
Marietta	1,000
Spalding Ponds, Griffin	1,500
Wards Gin Pond, Cuthbert	500
Polecat Lake, Tate	1,000
Whitfield Pond, Tate	500
Lake, Tate	1,000
Crooked Creek Lake, Tate	500
East Lake, Atlanta	1,000
Bells Mill Pond, Cuthbert	200
Pine Lake, Duluth	1,000
Shoal Creek, Canton	1,000
Hickory Log Creek, Canton	1,000
Spring Creek, Rome	2,000
Tates Mill Pond, Jasper	2,000
Lake Cohutta, Dalton	800
Mill Pond, Augusta	800
Tilton	1,000
Deep Creek, Clarkesville	1,500
Hemptown Creek, Jasper	1,000
Fish Lake, Atlanta	500
Holly Creek, Dalton	1,500
Parham Pond, Norwood	500
Bradshaw Pond, Norwood	500
Grays Pond, Haralson	1,000
Beech Creek, Lagrange	2,000
Childs Pond, Newborn	1,000
Mill Pond, Meansville	1,000
Harpers Pond, Eastman	800
Buchanan Pond, Eastman	500
Moons Pond, Powder Springs	500
Apalachee River, Bethlehem	1,000
Spring Branch, Eupatoie	500
Chattahoochee River, Gainesville	1,000
Tallapoosa River, Buchanan	1,000
Oconee River, Commerce	1,000
Mill Branch, Nicholls	800
Massus Creek, Rockledge	600
Lakewood Lake, Atlanta	500
Roberts Pond, Fairburn	500
Illinois:	
Snowflake Pond, Dahlgren	80
Fairgrounds Lake, Springfield	240
Sangamon River, Decatur	360
Fairlawn Lake, Decatur	100
Springdale Lake, Oakland	80
Reservoir Lake, Paris	200
Miller Park Lake, Bloomington	100
Brickyard Pond, Collinsville	208
Fish Pond, Farmer City	100
Gibson	100
Marshall Pond, Whitehall	40
Suburban Lake, Whitehall	40
Meredosia Bay, Meredosia	1,700
Monee Reservoir, Monee	240
Kinmundy Reservoir, Kinmundy	120
Bois Reservoir, Bois	120
Coulterville Reservoir, Coulterville	120

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Indiana:	
Martin Fish Pond, Muncie	160
Fish Pond, Bloomington	160
Portland	135
Daleville	80
Fort Wayne	150
Fish Lakes, Indianapolis	120
Pine Creek, Williamsport	320
Big Pine Creek, Williamsport	160
Blue Lake, South Bend	200
Heaton Lake, Elkhart	500
Johnsons Pond, Brazil	150
Trager Pond, Bristol	300
Big Indian Creek, Georgetown	500
Lost River, Orleans	160
Buck Creek, New Albany	150
Spring Branch Pond, Rivervale	80
Spring Lake, Anderson	80
Gravel Pit, Greentown	140
Hartman Lake, Kendallville	250
Warren Park Ponds, Terre Haute	75
Crystal Lake, Anderson	80
Tippecanoe River, Monticello	150
Lake, Leesburg	150
River, Rochester	300
Silver Lake, New Albany	150
Silver Creek, Memphis	100
North Fork White River, Broadripple	160
North Fork Wild Cat Creek, Rossville	500
Whitewater River, Centerville	200
Fall Creek, Pendleton	80
Glendale Pond, Anderson	80
Waterworks Lake, Huntingburg	80
Willow Lake, Evansville	120
Lake Manitou, Rochester	200
Sand Creek, Leets	200
Lagoon Park Pond, Portland	90
White River, Muncie	160
Winchester	160
Broadripple	160
Eel River, Jamestown	200
Salomonia River, Portland	135
South Fork Wild Cat Creek, Mulberry	150
Driftwood Creek, Edinburg	100
Lake Wawassee, Wawassee	300
Winona Lake, Warsaw	500
Pigeon Creek, Booneville	150
Country Club Lake, Evansville	280
Big Creek, North Madison	140
Cole Creek, Veedersburg	140
West Fork White River, Indianapolis	700
Mill Pond, Mount Vernon	80
Wellfred Fish Pond, Shelburn	225
Magner Pond, Orleans	80
Applicants in Indiana	890
Indian Territory:	
Fish Ponds, Cherokee Nation	1,000
Ardmore	375
Coal Pond, Pauls Valley	75
Washita River, Pauls Valley	150
Lancaster Lake, Ardmore	75
Pennington River, Tishomingo	75
Chickasaw Lake, Ardmore	75
Lynch Lake, Vinita	100
Fish Lake, Choteau	70
Tucker Lake, Chickasha	75
Reservoir, Byers	150
Risner Lake, Atoka	85
Applicants	150
Kansas:	
Caney River, Grenola	1,500
Slate Creek, Wellington	200
Fall River, Neodesha	1,500
Caldwell	100

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Kansas—Continued.	
Lake Juanita, Geuda Springs	50
Fish Pond, Goddard	40
Bronson	500
Railroad Lake, Cherokee	1,000
Bass Lake, Rago	75
Grouse Creek, Burden	100
Walnut River, Douglas	100
Eldorado	100
Spring Branch, Bronson	500
Dutch Creek, Wilmot	100
Limestone Creek, Bronson	500
Bass Pond, Bronson	500
Farm Pond, Oswego	500
City Water Ditch Lake, Medicine Lodge	500
Sugar Lake, Medicine Lodge	40
Fairley Lake, Medicine Lodge	40
Bently Pond, Belmont	35
Marmaton River, Fort Scott	500
Valks Lake, Pratt	25
Gibson Pond, Isabel	35
Small Lake, Anthony	75
Gates Pond, Anthony	50
Cedar Mountain Pond, Sharon	100
Applicants	450
Kentucky:	
King's Pond, Burgin	40
West Fork Creek, Trenton	100
Distillery Lake, Eminence	80
Fish Pond, Samuels	150
Allensville	120
Paris	120
Trenton	425
Paris	320
Keene	40
Hodgensville	150
Linn Pond, Linn	80
Lake View, Latonia	80
Spring Lake, Allensville	320
Lake Reba, Richmond	120
Sansfords Pond, Campbellsburg	80
Benson Creek, Frankfort	120
Middle Fork Red River Natural Bridge	560
Tygarts Creek, Olivehill	120
Weare Fish Pond, Trenton	50
Willow Pond, Allensville	160
Stoner Creek, Austerlitz	200
Sidney Clay Pond, Paris	80
Strodes Creek, Paris	160
Wright Pond, Paris	120
Clear Pond, Newstead	100
Elk Fork Creek, Guthrie	150
Rock Wall Pond, Julian	50
Faulkner Pond, Rich	100
Casey Creek, Newstead	200
Candle Pond, Newstead	100
Buck Pond, Newstead	100
Boyd Lake, Shelbyville	80
Glenns Pond, Shelbyville	80
Zaring Pond, Shelbyville	80
Beshears Creek, Shelbyville	80
Fox Run, Shelbyville	80
Mulberry Creek, Shelbyville	80
Daniels Pond, Shelbyville	80
Offutt Lake, Shelbyville	80
Lake Ellerslie, Lexington	480
Hall Pond, Newstead	100
Fleming Creek, Pleasant Valley	280
Perrine Pond, Maysville	40
Big Pond, Trenton	100
Kinniconick River, Vanceburg	120
Clearview Lake, Austerlitz	80
Slate Creek, Mount Sterling	480
Luebegond Creek, Mount Sterling	160
Mount Sterling Lake, Mount Sterling	240

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Kentucky—Continued.	
Woldridge Pond, Versailles	80
Triplet Creek, Morehead	160
Bowman Pound, Burgin	40
Kingfisher Lake, Powers	120
Big Sandy River, Louisa	120
Applicants	1,575
Louisiana:	
Stokes Pond, Mansfield	40
Lake Hayes, Lake Hayes	400
Artificial Lake, Bowie	120
Natchitoches	40
Lumber Company Pond, Marthaville	70
Red Bayou, Gillian	80
Fish Lake, Natchitoches	40
Robeline	70
Loring	40
Champlin Lake, Natchitoches	120
Scarbrough Lake, Natchitoches	40
Spring Branch, Natchitoches	40
Harts Island Bayou, Shreveport	70
Moon Lake, Taylortown	80
Lake Tasse, Cave	350
City Park Lake, New Orleans	200
Mississippi River, New Orleans	80
Mill Pond, Warnerton	1,000
Ferguson Lake, Homer	37
Applicants	110
Maine:	
Lower Kimball Pond, Fryeburg	348
Maryland:	
Noyes Dam, Gaithersburg	750
Eastern Branch, Riverdale	100
Fishing Creek, Frederick	1,423
Waterworks Pond, Smithburg	500
Deep Creek, Deer Park	300
Piney Falls Creek, Frederick	200
Magathy River, Jones	200
Potomac River, Cumberland	500
Rawlings	4,500
Conococheague Creek, Hagerstown	2,200
Flag Pond Creek, Doubs	800
Gwyns Falls Creek, Catonsville	250
Chevy Chase Lake, Chevy Chase	60
Massachusetts:	
Connecticut River, Northampton	400
Onota Lake, Pittsfield	200
Comet Pond, Hubbardstown	300
Fish Pond, Northampton	100
Hubbardston	100
Craigs Pond, Peabody	200
Chartley Pond, Chartley	200
Michigan:	
Susan Lake, Charlevoix	200
Lake Fremont, Fremont	300
Glen Lake, Empire	200
Hogs Back Lake, Traverse City	200
Van Auckins Lake, Hartford	200
Christiana Pond, Edwardsburg	200
Round Lake, Hanover	200
Whites Lake, Kalamazoo	200
Crooked Lake, Oden	200
Eagle Lake, Edwardsburg	200
Small Lake, Hart	250
Mississippi:	
Fish Ponds, Bolton	2,000
Myrtle	40
Starkville	240
Ellisville	2,000
Corinth	240
Clinton	1,000
Edwards	1,000
Estabutchie	1,000
Macon	80
Rienzi	40
Iuka	800

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Mississippi—Continued.	
Horseshoe Lake, Aberdeen	120
Holmes Lake, Brandon	1,000
Horseshoe Lake, Abbeville	180
Spring Branch, Myrtle	75
Collins Pond, Myrtle	76
Banks Pond, Hernando	85
Fresh Water Ponds, Gloster	7,000
Rose Farm Fish Pond, Ocean Springs	150
Dead River, Aberdeen	135
Fish Lakes, Corinth	340
Mooreville Pond, Corinth	80
Oaklawn Lake, Corinth	40
Lake Park Lake, Corinth	80
Glovers Lake, Corinth	80
Booneville Fish Lake Company's Pond, Booneville	360
Bass Lakes, Centerville	7,000
Hamburg	3,000
Brandon	1,000
Valls Creek, Fayette	1,000
Spring Head Pond, Collins	1,000
Quiner Creek, Purnell	680
Valley Pond, Myrtle	116
Bass Pond, Hazelhurst	1,000
Evans Mill Pond, Shuqualak	40
Fish Lake, Holly Springs	80
Hoops Branch, Port Gibson	1,000
Sugar Knoll Lake, Corinth	800
Little Yellow Creek, Corinth	1,000
Hinkle Creek, Corinth	1,000
Mays Creek, Corinth	1,000
Cane Creek, Corinth	1,000
Bridge Creek Lake, Corinth	500
McCullars Lake, Corinth	500
Parmitchie Creek, Corinth	1,000
Meadors Fish Pond, Corinth	500
Sharp Fish Pond, Corinth	500
Adams Pond, Corinth	500
Lamberth Lake, Corinth	800
Waukomis Lake, Corinth	1,000
Clear Creek Trestle Lake, Corinth	500
Clear Lake, Corinth	800
Powells Lake, Corinth	800
Shady Lake, Guntown	500
Applicants	925
Missouri:	
Duck Lake, Shell City	75
Cutoff Lake, Brunswick	320
Spring Lake, Versailles	240
Boiling Springs, Billings	100
Moody Pond, Atlanta	120
Asylum Pond, Nevada	125
Shoal and Hickory creeks, Neosho	200
Katy Island Lake, Nevada	250
Fish Ponds, Nevada	250
Crescent Pond, Neosho	150
Hudsons Pond, Neosho	150
Willow Springs Pond, Willow Springs	900
Louisiana Purchase Exposition, St. Louis	17
Shady Brook Lake, St. Louis	120
New Hampshire:	
Dark Pond, Harrisville	400
Gilmore Pond, East Jaffrey	200
New Jersey:	
Millstone River, Princeton	150
Quicks Pond, Branchville	175
Delaware River, Belvidere	25
Piccatinny Lake, Piccatinny	400
Lake Shamong, Chatsworth	800
Mill Pond, Swedesboro	100
South Vineland	150
Blackwood Lake, Blackwood	150
Keans Pond, Woodbury	150
Olephants Pond, Harrisonville	150

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
New Jersey—Continued.	
Culvers Lake, Branchville	200
Silver Lake, Lucaston	200
Mountain Lake, Hoptacong	200
Lake Hoptacong, Hoptacong	800
Lake Grinnell, Sussex County	150
White Lake, Sussex County	150
Hutchinsons Pond, Trenton	400
Greenwood Lake, Cranford	2,100
New Mexico:	
Spring Creek Pond, Navarisa	50
Jaritos Reservoir, Springer	200
Castle Creek, Carlsbad	50
Tippecanoe Lake, Roswell	50
Reservoir, Roswell	50
Raton	200
Lake Stephana, Roswell	100
Lake Julia, Roswell	50
Cedar Lake, Tucumcare	50
Asylum Lake, Las Vegas	200
Fish Pond, Capitan	25
Roswell	50
New York:	
Lusk Reservoir, West Point	200
Fish Pond, South Salem	200
Bedford	200
Angola	150
Mill Pond, Hoosic	150
County Club's Pond, Eastport	200
Sills Pond, Greenport	100
Heaptauqua Lake, Chappaqua	100
Lake Aries, Troy	350
Susquehanna River, Binghamton	200
North Carolina:	
Fish Pond, Goldsboro	150
Manchester	50
Scotland Neck	200
Pine Bluff	75
Flatrock	1,000
Goldsboro	75
Moore Pond, Goldsboro	75
Mill Pond, Granite Falls	150
Greensboro	75
Havelock	75
Lucama	75
Maxton	75
Faison	50
Fish Lake, Lenoir	75
Pine Bluff	75
Spring Pond, Reidsville	50
Reedy Creek Pond, Browns Siding	75
Andersons Pond, Pinehall	50
Lake Jungle, Tunis	75
Haggarts Pond, Carthage	75
Cypress Pond, Castle	75
Long Pond, Castle	75
Holland Pond, Statesville	50
Southwest Creek, Kinston	75
Method Creek, Raleigh	50
Wyatts Mill Pond, Raleigh	200
Limestone Lake, Morrisville	50
Country Club Lake, Charlotte	75
Crystal Lake, Lakeview	200
Lucas Mill Pond, Highpoint	75
Trotters Mill Pond, Highpoint	75
Brown Pond, Marion	50
Goose Pond, Manchester	50
Earnhart Pond, Salisbury	50
Applicants	550
North Dakota:	
Lake Byrnes, St. John	200
Jervis Lake, St. John	800
Rose Lake, Rolla	200
Healms Lake, Hannah	150
Fish Pond, Dickinson	800
Johnsons Pond, Ellendale	100

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Ohio:	
Cuyahoga River, Mantua	145
Twin Lakes, Kemp	140
Chippewa Lake, Chippewa Lake	150
Fish Pond, Norwalk	120
Lake Pippin, Akron	150
Geauga Lake, Geauga	290
Little Beaver Creek, East Liverpool	150
Maumee River, Defiance	160
Spring Pond, Hillsboro	40
Big Miami River, Troy	150
Tyrnochtee Creek, Carey	120
Clear Fork, Mohican River, Belleville	120
Maumee River, Cecil	160
Napoleon	160
Auglaize River, Wapakoneta	150
Uniopolis	120
Eagle Creek, Phalanx	460
Olin Branch Pond, Cincinnati	120
Highview Park Pond, Reading	120
Lake Park Lake, Alliance	150
Applicants	820
Oklahoma:	
Fish Lakes, Walter	155
Spring Branch, Kremlin	75
Fish Ponds, Kremlin	75
Fish Pond, Oklahoma City	105
Ames	50
Mulhall	75
Glencoe	40
Woodward	100
Chilocco Lake, Chilocco	75
Spring Valley Creek, North Enid	120
Spring Valley Ponds, North Enid	75
Crutcho Creek, Oklahoma City	290
Blue Lake, Purcell	75
Peters Lake, Purcell	75
Humphreys Lake, El Reno	80
Yost Lake, Yost	205
Hopkins Dam, Chickasha	40
Beaver Dam Pond, Woodward	100
Cache and Medicine Creek, Lawton	300
Blue Beaver Creek, Lawton	138
West Cache Creek, Cache	120
Beech Spring, Glencoe	40
Boomer Creek, Stillwater	105
Coran Pond, Gage	50
Frogge Pond, Blackwell	75
Tecumseh Reservoir, Tecumseh	200
Maramec Pond, Avery	120
Newkirk Pond, Newkirk	240
Kingfisher Creek, Kingfisher	100
Spring Lake, Mangum	80
Applicants	460
Pennsylvania:	
Lake Cary, Lake Cary	200
Raystown Branch, Juniata River, Everett	300
Riddle Creek, Chester	150
Fish Pond, Butler	300
Manor	150
Elk Lake, Canton	200
Conneaut Lake, Cambridge Springs	200
Crystal Lake, Carbondale	350
Forest Lake, Montrose	200
Big Creek, Lehighton	600
French Creek, Franklin	400
Cochranton	100
Carlton	100
Utica	100
Allegheny River, Emlenton	300
Northeast Branch of Perkiomen River, Telford	300
Susquehanna River, South Danville	300

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Pennsylvania—Continued.	
Mill Pond, Washington	200
Plum Lake, Sandy Lake	100
Lost Creek Reservoir, Shenandoah	150
Conococheague Creek, Chambersburg	500
Elk Lake, Honesdale	300
French Creek, St. Peters	200
Conestoga Creek, Lancaster	200
Elk Lake, Montrose	150
Juniata River, Huntingdon	600
Stone Creek, Huntingdon	300
Standing Stone Creek, Huntingdon	300
Raystown Branch of Juniata River, Marklesburg	450
Lake Newangola, Nanticoke	450
Forest Lake, Bushkill	450
Frankstown Branch of Juniata River, Alexandria	150
Juniata River, Alexandria	300
Pickering Creek, Phœnixville	200
Eaglesmere Lake, Sonestown	300
Susquehanna River, Selinsgrove	300
Teedyuskung Lake, Rowland	200
Aughwick Creek, Mount Union	300
Lake Lewis, Eaglesmere	300
Juniata River, Altoona	300
Big Conestoga Creek, Leola	200
Allegheny River, Rockwood	300
Raystown Branch of Juniata River, Hopewell	300
Lehigh River, Freemansburg	300
Crooked Creek, McConnellstown	450
Naamand Creek, Boothwyn	150
Sugar Creek, Troy	300
Wiconisco Creek, Tower City	500
Moosic Lake, Scranton	200
Wissahickon Creek, Fort Washington	200
Schuylkill River, Pottstown	200
Mudd Creek Lake, Frackville	350
Two Lick Creek, Indiana	300
Coxtown Lake, Starrucca	200
Island Pond, Starrucca	200
Starrucca Pond, Starrucca	200
Conneaut Lake, Conneaut Lake	500
Susquehanna River, Susquehanna	300
Venango River, Meadville	400
Pottsville Lake, Frackville	150
Rhode Island:	
Watchaug Lake, Westerly	600
Yarker Pond, Kingston	200
Beach Pond, Providence	400
Nayette Pond, Providence	400
Sessons Pond, Newport	200
South Carolina:	
Fish Ponds, Greenville	1,000
Switzer	1,000
Eastover	500
Honeapath	800
Chappells	250
Fort Mill	1,000
Fountain Inn	2,000
Lancaster	2,250
Campobello	1,500
Bishopville	500
Middle Saluda River, Greenville	2,500
Bass Lake, Fort Mill	1,000
Fish Lake, Whitestone Springs	1,000
Tyger River, Woodruff	1,000
Enoree River, Clinton	1,000
Enoree	6,000
Green Swamp Pond, Sumter	500
Saluda River, Belton	5,000
Goose Creek, Otranto	500
Blackman Pond, Lancaster	1,000

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
South Carolina—Continued.	
Spring Branch, Trenton	1,000
Pelion	1,000
Mill Pond, Trenton	1,000
Greenwood Cotton Mill Pond, Easley	1,000
Saluda River, Honeapath	1,000
Little River, Honeapath	1,000
Beaver Dam Pond, McBee	1,000
Lake Como, Blaney	1,000
Caromaca Creek, Greenwood	1,000
Black River, Georgetown	500
Baker Creek, Pelzer	1,000
Manchester Pond, Rock Hill	1,000
Mill Pond, Tirzala	800
Smith Pond, Clover	800
Pressley Pond, Clover	800
Crowders Creek, Yorkville	1,000
Flat Creek, Kershaw	1,000
Lynchs River, Kershaw	1,000
Tuckahoe Lake, Kershaw	1,000
Gills Creek, Lancaster	1,800
Tributary of Gills Creek, Lancaster	800
Beaver Creek Pond, Lancaster	800
Warrior Creek, Enoree	1,000
Spring Branch, Yorkville	800
Messers Mill Pond, Columbia	1,000
Gray Spring Pond, Anderson	250
Greenwood Mill Pond, Greenwood	250
South Dakota:	
School Pond, Chamberlain	83
Enemy Swine Lake, Wambay	500
Lake Kampeska, Watertown	620
Pickerel Lake, Webster	450
Firesteel Creek, Mitchell	100
Vermilion River, Parker	100
James River, Parkston	100
Willow Creek, Bonesteel	116
Vermilion River, Vermilion	100
Fish Pond, Bendon	50
Ipswich	100
Amherst	150
Dakota River, Winthrop	33
James River, Alexandria	100
Ethan	100
Scotland	100
Menno	100
Lindebeck Lake, Woonsocket	66
Big Sioux River, Sioux Falls	66
Lake Campbell, Estelline	200
Lake Poinsett, Estelline	200
Lake Hendricks, Estelline	200
Bass Lake, Tyndall	33
Elderwood Lake, Ipswich	100
Jackson Lake, Ipswich	150
Wolf Creek Pond, Canova	66
Fish Lake, Glenn	34
Platte Pond, White Lake	34
Woonsocket Lake, Woonsocket	133
Nine Mile Lake, Brittan	450
Diamond Lake, Tyndal	33
Big Sioux River, Canton	66
Big Hoix River, Flandreau	66
Heatochwill Lake, Bendon	34
Fosness Pond, Preaho	50
Tennessee:	
Big Creek, Del Rio	250
Little River, Rockford	150
Spring Creek, Chattanooga	75
Lake View, Chattanooga	75
North Chickamauga Creek, Chattanooga	100
Elk Fork Creek, Newcomb	75
Long Creek, Del Rio	350
Little Limestone Creek, Washington College	75
Flint River, Fayetteville	250

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Tennessee—Continued.	
Duck River Manchester	100
Little River, Walland	100
Turnbull Creek, White Bluff	160
Fork of Shoal Creek, Lawrenceburg	194
Sweet Creek, Sweetwater	225
Fork Creek, Sweetwater	100
Pond Creek, Sweetwater	100
Estamaula Creek, Sweetwater	100
Fork of Duck River, Wartrace	150
Loosahatchie Creek, Somerville	200
Gillens Pond, Donelson	80
Watauga and Doe rivers, Elizabethtown	200
Carp Lake, Trenton	40
Little Tennessee River, Lenoir City	150
Sweetwater Creek, Philadelphia	100
London	100
Clinch River, Harriman	150
Clinton	100
French Broad River, Leadville	75
Holston River, Strawberry Plains	100
Pistol Creek, Maryville	100
Ellijay Creek, Maryville	100
Beaver Creek, Powell	100
Emory River, Harriman	75
Tennessee River, Knoxville	225
Big Pigeon River, Newport	300
Clear Creek, Newport	75
Tennessee River, Louisville	100
Elk Fork Creek, Jellico	75
Clear Creek, Del Rio	150
Glenn Cliff Lake, Lewisburg	100
Craigmiller Lake, Cleveland	75
Bigcreek Mill Pond, Rogersville	100
Arcadia Lake, Knoxville	100
Chickamauga Lake, Chattanooga	100
Fish Pond, Morristown	75
Elk Fork Creek, Elk Valley	75
Paunch Creek, Winfield	200
Garrison Creek, Wartrace	150
Lick Fork Creek, Elk Valley	100
Headwaters of Bull Run, Luttrell	100
Piney River, Goodrich	160
Fork of Red River, Cedar Hill	100
Applicants	320
Texas:	
Wolf Creek Dam, Shamrock	75
Fish Pond, Leroy	100
Sweetwater	300
Blooming Grove	150
Gatesville	300
Phelps	400
Jacksboro	200
Fayetteville	100
Roscoe	300
Anneta	300
Graham	150
Harrold	150
Santo	200
Sulphur Springs	300
Hillsboro	200
Baird	125
Flatonia	200
Waco	150
Austin	75
Brownwood	150
Commerce	100
Coleman	300
Burlington	125
Groesbeck	300
Gorman	125
Terrell	200
Bonham	300
Goliad	100

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Texas—Continued.	
Artificial Lake, Bryan	400
Taylors Bayou, Bluemont	500
Fish Lake, Sweetwater	200
Mertans	500
Jacksboro	100
Appleby	125
Chico	150
Coupland	300
Gainesville	75
Weatherford	200
Jacksonville	200
Luftin	1,000
Wichita Falls	200
Dallas	1,000
Buda	500
Dodds	300
Lott	200
Glosson	500
Albany	150
Rosebud	125
Cameron	200
Oakwoods	400
Hillsboro	200
Rock Wall	300
Buda	500
Turkey Creek, Cline	500
San Gabriel River, Liberty Hill	2,500
Hampton Pond, Graham	50
Spring Lake, Longview	100
Lakota Tank, Millsap	150
Park Lake, Jacksonville	300
Clear Lake, Weatherford	300
Jones Tank, Kemp	200
Water Tank, Kemp	200
Limbia Creek, Marfa	250
Phantom Lake, Marfa	250
Mill Pond, Chico	100
Tank Lake, Graham	250
Spring Pond, Alpine	75
Club Lake, Gainesville	325
Salt Creek, Texola	1,000
Running Spring, Langtry	150
Lake Covington, Rusk	100
Penitentiary Reservoir, Rusk	400
Harcrow Tank, Mart	300
Spring Creek, Plano	1,000
Cates Pond, Terrell	75
Artificial Lake, Midlothian	200
Benton Fish Pond, Richland	200
Little Clear Lake, Longview	100
Bailey Pond, Athens	100
Lake Falconer, Marlin	500
Key Brothers Lake, Lampasas	200
Yancy Creek, Lampasas	1,000
Lampasas River, Lampasas	1,000
Little Lucy Creek, Lampasas	1,000
Becker Pond, Kaufman	100
Lake Snow, Kaufman	400
Spring Branch, Plano	500
Lake Goodwin, Wills Point	500
Lake Thorne, Wills Point	950
Spring Park Lake, Palestine	400
Railroad Lake, Palestine	500
Perry Lake, Palestine	300
Saline Lake, Palestine	300
Dietz Lake, Palestine	500
Bachmans Lake, Dallas	2,750
Calloway Lake, Marshall	400
Lake Eloise, Waco	1,130
Standefer Pond, Waco	250
Days Spring Lake, Waco	1,000
Willow Lake, Waco	300
Louise Pond, Waco	100
Waterworks Reservoir, Waco	200
Palmetto Lake, Waco	200
Carters Lake, Alma	300
Ranch Pond, Ennis	300
Ball Pond, Dekalb	500

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Texas—Continued.	
Railroad Lake, Colorado	100
Bass Lake, Nacogdoches	1,000
Crystal Lake, Spring	200
Railroad Lake, Bryan	1,000
Elkhart	750
Phelps	750
Coleman Junction	650
Artificial Lake, Loneoak	200
Smithers Lake, Thompson	1,500
Round Lake, Jacksonville	300
Lake MacKenzie, San Antonio	1,000
Bermuda Pond, Sherman	125
Goon Lake, Gainesville	200
Fern Spring, Weatherford	150
Private Lake, Weatherford	200
Lake Jumbo, Weatherford	150
Clear Lake, Weatherford	200
Laundry Pond, Sherman	125
Lily Pond, Navasota	200
Fish Lakes, Albany	500
Bonham	200
Snalum Lake, Albany	300
Ackerman Lake, Albany	150
Gunter Lake, Gunter	2,500
Spring Lake, Uvalde	25
Three Fish Ponds, Hondo	600
Spring Branch, Catchspring	75
Jim Ned Creek, Coleman	500
Horne Creek, Coleman	500
Fayle Creek Pond, Albany	150
Big Tank, Albany	250
Tributaries of Red Deer Creek, Canadian	3,000
Cabin Creek, Canadian	2,900
Johnson Lake, Canadian	100
Fish Tanks, Roscoe	300
Vance Creek Pond, Lacoste	300
Hickory Lake, Roanoke	300
Pryor Lake, Uvalde	100
Baldwins Tank, Stamford	50
Red Creek Lake, Stamford	100
Hamilton Lake, Stamford	125
Post Lake, Stamford	75
Pond and lake, Alice	200
Diboll Lake, Diboll	1,000
Phillips Lake, Graham	400
Silver Lake, Alvord	200
Eden Lake, Moore	125
Lake Bernice, Cisco	600
Fish Ponds, Cisco	325
Corsicana	600
Kaufman	300
Albany	300
Stamford	275
Douglassville	350
Lake Thorndike, Longview	200
Lake Pauline, Longview	100
Mill Pond, Westville	300
Jamison Pond, Clarksville	200
Twin Lake, Jacksonville	100
McKnight Lake, Jacksonville	300
Fern Lake, Jacksonville	400
White Sulphur Springs, Troup	100
Bankhead Lake, Paris	300
Ellis Lake, Paris	150
Ragland Lake, Paris	150
Collins Lake, Paris	150
Country Club Pond, Paris	1,300
Willow Lake, Saron	300
Lake Park Lake, Hillsboro	400
Simpson Creek, Goldthwaite	500
Exall Lake, Dallas	1,250
Spring Branch, Pecos	500
Toyah Creek, Pecos	500
Shillers Lake, Elgin	500
Fin and Feather Club Lake, Honeygrove	300

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Texas—Continued.	
Gallia Pond, Engle	150
Mitchell Lake, San Antonio	1,300
San Saba River, Goldthwaite	575
Sand Lake, Lewisville	300
Mill Pond, Mansfield	200
Holts Pond, Iatan	1,000
Irwin Lake, Cotulla	300
Harris Lake, Cotulla	400
Nueces River, Cotulla	850
Artificial Lake, Dodd City	75
Turney Pond, Smithville	200
Ginn Lake, Montcalm	200
Morgans Branch, Athens	500
Camp Creek, Colorado	500
Comanche Creek, Pecos	1,000
Fish Club Lake, Hutchins	4,050
Holt Pond, Pittsburg	400
Artificial Lakes, Hubbard	500
Hill Tank, Hubbard	300
McDaniel Lake, Hubbard	300
Phillips Lake, Hubbard	300
Sanders Lake, Hubbard	300
Reformatory Lake, Gatesville	900
Oakes Pond, Perry	125
Boggy Creek, Shiner	1,000
Santa Fe and Clements lakes, Goldthwaite	800
Hickey Lake, Overton	400
Gourley Lake, Troup	400
Collier Lake, Troup	400
Gin Pond, Dekalb	150
Park Farm Lake, Beaumont	500
Alligator Lake, Edna	500
Allens Gin Pond, Minerva	125
Rio Grande River, El Paso	25
Trinity River, Fort Worth	450
Round Bale Pool, Greenville	150
Lake Sala, Talpa	400
Five Mile Creek, Flatonia	1,000
West Lake, Weatherford	300
Twin Creek, Maybank	200
Meadowbrook Lake, Sulphur Springs	400
Picnic Lake, Sulphur Springs	400
Thomas Pond, Sulphur Springs	300
Reynolds Pond, Kilgore	150
San Antonio River, San Antonio	1,500
San Pedro Park Lake, San Antonio	500
Fair Grounds Pond, San Antonio	205
Sullivan Lake, Flatonia	500
Artificial Lake, Otto	800
French Lake, Mineral Wells	200
Home Pond, Kemp	100
Greenbrier Lake, Burlingame	1,000
Johns Lake, Brownwood	500
Willes Creek, Brownwood	500
Fallon Lake, Sherman	250
Railroad Lake, Irene	40
Bellebrande	85
Railroad Pond, Saltillo	800
Fish Club Lake, Whitesboro	500
Lake Park, Temple	1,000
Cypress Creek, Comfort	1,000
Mill Pond, Brownsboro	200
Wood Lake, Denison	500
McCool Ponds, Whitesboro	150
Reservoir, Encinal	600
Randall Pond, Forney	250
Latimers Lake, Forney	150
Lake Myriad, Lufkin	500
Patterson Park Pond, Franklin	400
Walnut Lake, Higgins	500
Vintons Spring, El Paso	400
Durazuitas Creek, El Paso	1,000
Cana Pond, Mabank	150
Galloways Pond, Overton	200
Large-mouth black bass—Continued.	
Texas—Continued.	
Huffs Lake, Palestine	500
Shipps Lake, Smithville	600
Burns Pond, Kosse	400
Lake Aughtry, Booth	500
Johnson Lake, Longview	200
Old House Bayou, Booth	1,000
Fish Club Lake, McKinney	500
Fish Pool, Rosebud	100
Sycamore Park Pond, West	150
Buckham Lake, Whitesboro	450
Marshalls Mill Pond, Whitesboro	100
Tippitts Lake, Whitesboro	100
Blue Lake, Jacksonville	400
Lovelace Lake, Bonham	300
City Waterworks Pond, Bonham	300
Water Company Lake, Royce	150
Two Small lakes, McKinney	500
Clear Lake, McKinney	300
Spring Creek, Skidmore	150
Ten large reservoirs, Alice	1,000
Pietzsch Pond, Lyons	100
Guadalupe River, Kerrville	1,000
Railroad Lake, Richland	600
Large Fish Pond, Ennis	500
Avoca Pond, Avoca	1,000
North Concho River, San Angelo	2,000
Lake Hay, Marshall	200
Large Lake, Fort Worth	500
Applicants	2,815
Virginia:	
Fish Pond, King William	100
Richmond	400
Drakes Branch	500
Crewe	1,500
Whitehall	500
Kinsale	400
Rawls Pond, Cansville	100
Mill Pond, Bacon Castle	100
Holly Springs Pond, Cotman	100
West Hampton Pond, Richmond	150
Watkins Mill Pond, Richmond	150
Greens Mill Pond, Richmond	150
Hermitage Pond, Richmond	500
Schwalms Pond, Richmond	400
Kings Mill Pond, Ashland	100
Rowles Pond, Ashland	200
Providence Forge Lake, Providence Forge	200
Edom Mill Lake, Harrisonburg	100
Roscobel Pond, Fredericksburg	100
South Fork of Shenandoah River, Waynesboro	1,100
Shenandoah River, Woodstock	100
Riverton	300
Modoc Lake, Norfolk	75
Staples Mill Pond, Lamberton	150
Joyce Lake, Norfolk	75
Broad Run, Bristow	200
Black Heath Pond, Midlothian	100
Mill Pond, Buffalo Junction	75
Big Calf Pasture River, Goshen	1,150
Mill Pond, Elmont	600
Cohoke Club Pond, Cohoke	800
Hilton Pond, Somerset	400
Rappahannock River, Warrenton	1,000
Little Borland Pond, Richmond	400
Rapidan River, Somerset	750
Roberston River, Somerset	750
Swift Creek, Ettricks	2,000
North River, Timber Ridge	1,200
Ice Pond, Ringgold	500
Sandy Creek, Danville	1,000
Griggs Pond, Whitehall	1,000
Occoquan Creek, Occoquan	1,000
Craigs and Johns creeks, Newcastle	1,150
North River, Lexington	1,000
Mabens Pond, Blackstone	300

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Large-mouth black bass—Continued.	
Virginia—Continued.	
Jackson River, Hot Springs	1,150
Shirley Pond, Charles City County	1,200
Coventry Pond, Spottsylvania	400
James River, Gilmores Mills	1,200
Elmington Pond, Elmont	500
West Virginia:	
Tygarts Valley River, Valley Falls Grafton	1,800
Cacapon River, Great Cacapon	400
Greenbrier River, Talcott	800
South Branch of Potomac River, Romney	400
Cheat River, Morgantown	600
Mill Creek, Ripley	800
Fish Pond, Jacksonburg	150
Big Wheeling Creek, Elm Grove	200
Big Sandy River, Naugatuck	800
Pattersons Creek, Keyser	500
Wisconsin:	200
Bass Lake, Marinette	200
Pine River, Three Lakes	200
Elbow Lake, Athelstane	225
Total	488,490
Small-mouth black bass.	
Michigan:	
Brooks Lake, Newyago	6,000
Whitefish Lake, Pierson	3,000
Park Lake, Bath	3,000
Tamarack Lake, Lakeview	3,000
Vermont:	
West River, South Londonderry	400
Eddy Pond, Rutland	200
Adsululu Pond, Ludlow	150
Echo Pond, Ludlow	150
Lamoille River, Cambridge	200
Groton Pond, Groton	200
Walcott Pond, Walcott	92
Total	16,892
Crappie.	
Arizona:	
Verde River, Jerome	250
Morgan Lake, Phoenix	200
Fish Pond, Fairbanks	100
Safford	100
Arkansas:	
Spring Pond, Rogers	100
Georgia:	
Silver Lake, Chamblee	50
Waldorps Pond, Jonesboro	50
Mill Pond, Jonesboro	50
Illinois:	
Fish Pond, Belleville	100
Crescent Mill Pond, Belleville	100
Scotts Lake, Belleville	100
Evergreen Pond, Belleville	400
Hillside Pond, Belleville	400
Bluffside Lake, East St. Louis	200
Fish Lake, Athens	1,200
Morgan Lake, Jacksonville	1,500
Meredosia Bay, Meredosia	1,400
Applicants	100
Indiana:	
Heaton Lake, Elkhart	700
Indian Territory:	
Fish Pond, Cherokee Nation	65
Iowa:	
Maquoketa River, Manchester	200
Kansas:	
Leas Pond, Kingman	75
Fish Lake, Kingman	100
Wallace Pond, Kingman	100

Species and disposition.	Fingerlings, yearlings, and adults.
Crappie—Continued.	
Kansas—Continued.	
Bass Lake, Rago	100
Fish Pond, Sharon	100
Belmont	150
Medicine Lodge	75
Caney River, Grenola	150
City Water Ditch Lake, Medicine Lodge	900
Hopper Lake, Pratt	100
Saratoga Lake, Pratt	75
Macredie Creek, Clearwater	100
Gibsons Pond, Isabel	100
Rock Creek, Anthony	200
Silver Creek, Anthony	200
Applicants	100
Kentucky:	
Fish Pond, Hodginsville	250
Georgetown	200
Sparta	100
Lebanon	100
Versailles	100
Graves County	100
Mount Sterling	100
Wyndemere Pond, Simpsonville	90
Fair Ground Lake, Somerset	100
Lake Ellerslie, Lexington	500
Applicants	490
Maryland:	
Tinkers Creek, Prince George County	400
Abbie Lake, Hyattsville	300
Fish Pond, Washington Grove	75
Massachusetts:	
Sontag Lake, Lynnfield	200
Missouri:	
Duck Lake, Schell City	200
Fish Pond, Springfield	150
Marionville	100
Lake View, Springfield	150
Boiling Springs, Billings	50
Hill Crest Lake, Greenwood	150
Silver Creek, Joplin	100
Louisiana Purchase Exposition, St. Louis	44
New Jersey:	
Fairhaven Pond, Washington	200
New Mexico:	
Borenda River, Roswell	200
Artificial Pond, Roswell	100
Lake, Roswell	100
North Carolina:	
McLeon Pond, Maxton	300
Fish Pond, Franklinton	200
Pennsylvania:	
Mill Creek, Mansfield	200
Hill Creek, Mansfield	200
Schraders Pond, Mansfield	150
Buck Lake, Honesdale	300
Twelvemile Pond, Stroudsburg	200
Spring Pond, Norristown	200
Perkiomen River, Norristown	75
Sandy Run, Fort Washington	200
South Dakota:	
Lake Byron, Huron	160
Lake Wilcox	120
James River	160
Alexandria	160
Mitchell	160
Firesteel Creek	160
Lake Kampeska, Watertown	1,400
Pickerel Lake, Webster	100
Tennessee:	
Kimbrough Pond, Atoka	150
Bushbys Lake, Oakville	150
Loosahatchie Creek, Comerville	200
Reservoir, Knoxville	150
Mill Pond, Idaville	100
Piney River, Nunnelly	200

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Crappie—Continued.	
Texas:	
Fish Lake, Orphans Home	100
Fish Pond, Decatur	20
Waco	25
Midlothian	20
Mesquite	50
Queen City	44
Austin	20
Clearwater Lake, Vernon	80
Lakeview, Waco	80
Santa Fe Lake, Celeste	40
Hill Lake, Longview	50
Sloans Pool, Waco	30
Fish Lake, Longview	50
Live Oak Pond, Devine	20
Railroad Tank, Coleman Junction	50
Trinity River, Fort Worth	20
Fair Ground Pond, San Antonio	104
Applicants	210
Virginia:	
Tributary of Mud Branch, Hatton	100
Mill Pond, Warsaw	200
Woods Lake, Richmond	100
Minger Fish Pond, Richmond	200
Fish Pond, Broadrun	200
West Virginia:	
Fish Pond, Omps	200
Wisconsin:	
Lake Franklin, Three Lakes	175
Total	22,172
Strawberry bass.	
Indian Territory:	
Fish Pond, Vinita	150
Pennington River, Tishomingo	150
Bledsoe Lake, Choteau	100
Big Blue River, Ardmore	150
Reservoir, Byars	100
Louisiana:	
Lake Hayes	270
Lake Josephine, Shreveport	100
Harts Island Bayou, Shreveport	100
Alligator Bayou, East Point	100
Clear Lake, Coushatta	100
Missouri:	
Shoal and Hickory creeks, Neosho	200
Louisiana Purchase Exposition, St. Louis	84
Oklahoma:	
Cache Creek, Fort Sill	200
Avery Reservoir, Avery	150
Tecumseh Reservoir, Tecumseh	150
Newkirk Reservoir, Newkirk	250
Yost Reservoir, Yost	150
Texas:	
Fish Pond, Waco	50
Llewellyn Lake, Dallas	100
Fair Ground Pond, San Antonio	50
Total	2,654
Rock bass.	
Arizona:	
Verde River, Jerome	200
Arkansas:	
Fish Pond, Washington	300
Applicants	600
District of Columbia:	
Industrial Home Pond, Washington	200
Illinois:	
Fish Pond, Belleville	100
Columbia	100
Spring Pond, Belleville	100
Columbia	100
Gravel Pit, Effingham	100

Species and disposition.	Fingerlings, yearlings, and adults.
Rock bass—Continued.	
Illinois—Continued.	
Stillwater Pond, Alton	100
Sieferts Pond, Belleville	150
Burghardt Lake, Belleville	100
Lake and canal, Carbondale	100
Applicants	1,100
Indiana:	
Gravel Pit, Tipton	100
Walnut Pond, Gentryville	100
Reservoir, Osgood	100
Sunnyside Pond, Terre Haute	150
Fish Lake, Ferdinand	100
Pecan Valley Pond, Inglefield	200
Lily Pond, Inglefield	50
Fish Pond, Inglefield	150
Brazil	200
Hurricane Pond, Franklin	100
Gravel Pit, Summitville	100
Applicants	1,100
Indian Territory:	
Fish Pond, Muskogee	100
Iowa:	
Winters Pond, Mount Pleasant	200
Kansas:	
Fish Ponds, Pratt	400
Coffeyville	200
Cherryvale	150
Independence	200
Clearwater	200
Columbus	200
Mound Valley	200
Parsons	200
Liberal	400
Moline	200
Argonia	200
Sharon	200
Latham Lake, Latham	200
City Water Ditch Lake, Medicine Lodge	200
Talbott Lake, Medicine Lodge	300
Kentucky:	
Crumps Pond, Smith Grove	200
Fish Ponds, Greensburg	200
Versailles	400
Trenton	400
Crystal Lake, Pembroke	150
Three Ponds, Allensville	150
Fox Pond, Trenton	100
Rogers Pond, Shelbyville	100
Applicants	2,390
Louisiana:	
Applicants at Homer	70
Maryland:	
Fish Pond, Monkton	100
Deer Lake	150
Bartletts Run Pond, Barton	100
Fish Lake, Washington County	300
Hancock Lake, Hyattsville	200
Applicants	200
Massachusetts:	
Fish Pond, Whitinsville	200
Mississippi:	
Fish Pond, Meridian	200
Missouri:	
Katy Island Lake, Nevada	400
Cockes Pond, Sleeper	150
Elm Pond, Fordland	250
Eisley Pond, Noel	100
Fish Lake, Independence	200
Artificial Pond, Kirksville	100
Shoal and Hickory creeks, Neosho	200
Wallen Spring Pond, Cassville	100
Turley Pond, Desloge	200
Hulmes Lake, Independence	100
Steinmetz Pond, Glasgow	100
Atterberry Pond, Atlanta	200
Sac Creek, Bois D'Arc	200

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Rock bass—Continued.	
Missouri—Continued.	
Stukenbraker Pond, Bourbon	200
Hillnest Lake, Greenwood	500
Fish Pond, Rockville	200
Spring Pond, Butler	200
Railroad Reservoir, Lisle	3,100
Louisiana Purchase Exposition, St. Louis	30
Applicants	600
New Jersey:	
Panther Lake, Andover	100
Fish Pond, Dunellen	100
New Mexico:	
Castle Pond, Magdalena	100
Fish Ponds, Portales	850
Salt Lake, Roswell	250
Lake Elinor, Roswell	100
Lake Stephana, Roswell	200
Fish Pond, Deming	100
Applicants	800
New York:	
Fish Pond, Orchard Park	150
Mountain Pond, Garrison	100
Spring Creek, Poughkeepsie	100
North Carolina:	
Rock Creek Pond, Wilkesboro	100
Grove Pond, Castle	100
Kiger Pond, Winston-Salem	100
Ice Pond, Henderson	100
Fish Pond, Durham	100
Siloam	100
Hickory	100
Marion	800
North Dakota:	
Fish Pond, Oakes	100
Ohio:	
Eagle Creek, Phalanx	500
Lilies Fish Pool, Bellecenter	150
Fish Pond, Proctorville	800
Maria Stein	100
Napoleon	75
Oklahoma:	
Fish Pond, Kremlin	150
Custer City	200
Alva	400
Okeen	200
Ames	300
Blackwell	400
Quay	150
Britton	150
Elgin	300
Miner Spring, Chandler	100
Spring Pond, Guthrie	100
Fish Lake, Arapahoe	200
Reservoir, Crescent	100
Okeen	200
Cottonwood Pond, Okarchee	100
Railroad Lake, Mountain Park	150
Artificial Lake, Stillwater	150
Applicants	850
Pennsylvania:	
Fish Pond, Mercersburg	100
Reading	200
Avonmore	100
Little Marsh Creek, McKnightstown	300
Tulpehoken Creek, Robesonia	300
Sycamore Pond, Penllyn	100
Mulligans Cove Run, Manns Choice	300
Sandy Run, Fort Washington	200
South Dakota:	
School Pond, Chamberlain	200
Shoe Creek, Huron	300
James River, Huron	200
Alexandria	200
Fish Lake, Ipswich	200
Fish Pond, Redfield	150
Applicants	700

Species and disposition.	Fingerlings, yearlings, and adults.
Rock bass—Continued.	
Tennessee:	
Tellico River, Athens	200
Swan Pond, Cleveland	100
Fish Pond, Gambles	150
Leadvale	150
Little River	150
Knoxville	150
McCraw Pond, Braden	150
Emory River, Harriman	500
Burnett Lake, Del Rio	100
Laurel Creek, Del Rio	200
Sand Spring Pond, Ewells	100
Applicants	900
Texas:	
Fish Lake, Ladonia	50
Fish Ponds, Whitesboro	325
Forney	200
Sulphur Springs	125
Paris	50
Longview	200
Krum	75
Taylor	125
Lone Oak	100
Queen City	75
Lott	125
Lyons	175
Martin	225
Mexia	125
Odessa	150
Ranger	125
Gordon Lake, Paris	500
Dry Creek Lake, Taylor	125
Ranch Lake, Midland	140
Las Olmas Lake, Taylor	500
Artificial Lake, Terrell	75
Bermuda Pond, Sherman	50
Germany Lake, Grand Saline	50
Dans Pond, Grand Saline	55
Artificial Lake, Longview	120
Landry Lake, Sherman	75
Spring Lake, Uvalde	25
Brownwood Lake, Brownwood	100
Springhill Lake, Honey Grove	150
Knox Pond, Moran	200
Lovelace Pond, Bangs	75
Rio Grande River, El Paso	25
Trinity River, Fort Worth	240
Polecat Spring, Kyle	100
Fair Ground Pond, San Antonio	129
Shook Lake, Stamford	100
Powell Pond, Maybank	75
Sister Grove Pond, Farmersville	100
Fish Lake, De Leon	100
Reservoir, Artesia	125
Harrell Pond, Maybank	100
Onion Creek, Buda	200
Duraznite Creek, El Paso	170
Waterworks Reservoir, Waco	450
Lake Aughtry, Booth	300
Reservoir, Pearsall	75
Harkness Lake, Pearsall	50
Reeds Lake, Hillsboro	100
Lake Thorne, Wills Point	175
Applicants	1,980
Virginia:	
Mill Pond, Wittens Mills	100
Fish Pond, Rapidan	100
Hanover	150
Maidens	150
Stonycreek Pond, Bedford City	250
Fish Ponds, Clayville	150
Taylors Pond, Purcellville	100
Willow Brook Pond, Newcastle	100
Dutch Creek, Elma	100
Leatherwood Pond, Axton	100
Martin Pond, Stuart	100
Small Lake, Esmont	150
Artificial Lake, Lee Hall	200
Slaty Branch Pond, Warminster	100

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Rock bass—Continued.	
Virginia—Continued.	
Back Creek, Roanoke	200
Applicants	775
West Virginia:	
Fish Pond, Charleston	200
Total	49,774
Warmouth Bass.	
Alabama:	
Fish Lake, Lincoln	100
Miners Mill Pond, Clanton	100
Florida:	
Cypress Lake, Cypress	200
Baker Lake, Umatilla	100
East Lake, Umatilla	100
Lake Lucerne, Orlando	100
Georgia:	
Spring Creek, Cairo	200
Fish Pond, Brunswick	100
Canton	100
Jasper	100
Hogansville	200
Outing Club Pond, Macon	200
Holly Springs Lake, Americus	200
Mill Pond, Jonesboro	100
Clarks Pond, Haddocks	100
Fish Ponds, Pendergrass	180
Mill Pond, Stephens Pottery	90
Holly Springs Lake, Americus	200
Louisiana:	
Klenaike Pond, Wilson	100
Mill Pond, Warnerton	100
Mississippi:	
Fish Ponds, Laurel	200
Clinton	300
Seminary	100
Hamburg	200
Crystal Springs	100
Forest	300
Fayette	450
Branard Pond, Hazlehurst	100
Artificial Lake, Gloucester	400
Dorsey Lake, Port Gibson	150
South Carolina:	
Bass Lake, Fort Mill	100
Fish Ponds, Fountain Inn	300
Woodruff	300
Greers	100
Switzer	100
Abbeville	100
Fair Forest	100
Spartanburg	100
Spring Branch, Westminster	100
Total	6,270
Bream.	
Alabama:	
Jordans Pond, Lapine	150
Fish Ponds, Fort Meigs	100
Opelika	150
Penrode	200
Dadeville	150
Pletcher	100
Ozark	150
Guin	100
Scotts Station	100
Penrode	350
Avery Lake, Opelika	350
Lakeview Lake, Opelika	150
Four Fish Ponds, Three Notch	600
Smith Little Creek, Selma	200
Spring Pond, Brantley	200
Giles Pond, Cuba	100
Spring Pond, Fort Deposit	150
Ingrams Mill Pond, Opelika	650
Colemans Pond, Union Springs	200
Cooks Pond, Fort Deposit	150

Species and dispositions.	Fingerlings, yearlings, and adults.
Bream—Continued.	
Alabama—Continued.	
Willow Pond, Eufaula	150
Crenshaw Pond, Fort Deposit	150
Mill Pond, Dadeville	150
Blackwater Creek, Jasper	200
Cain Creek, Jasper	100
Clear Creek, Jasper	100
Lost Creek, Jasper	100
Lins Creek, Fitzpatrick	500
Williamson Pond, Hatchechubbee	150
Kemp Fish Pond, Georgiana	200
Sutton Pond, Andalusia	150
Randle Pond, Union Springs	200
Smith Pond, Hatchechubbee	200
Phillips Pond, Eutaw	100
Pea River, Elba	650
Georgia:	
Magnolia Lake, Atlanta	100
Brookwood Pond, Atlanta	100
Melrose Pond, Savannah	200
Lake Mohignac, Columbus	100
McCalls Mill Pond, Macon	50
Martins Pond, Temple	200
Greens Pond, Macon	250
Fish Ponds, Jasper	100
Warmsprings	60
Seville	200
Ellijay	500
Cusseta	500
Atlanta	300
Winder	500
Renfroe	150
Marietta	150
Jefferson	150
Clito	250
Lafayette	400
Box Springs	150
Greenville	550
Cairo	300
Greens Pond, Macon	250
Recreation Club Pond, Macon	250
Crumps Park Pond, Macon	200
Hooks Mill Pond, Americus	400
Chapmans Pond, Crawfords	200
Spring Pond, Marshallville	300
Curry Pond, Jefferson	500
Gime Pond, Butler	50
Ogeechee River, Crawfordsville	50
Byrds Fish Pond, Waverly Hall	500
Rich Pond, Summerville	300
Ridleys Pond, Lagrange	1,000
Mill Pond, Richland	500
Spring Pond, Cairo	200
Waterworks Pond, Columbus	300
East Lake, Dalton	150
Lake Juliette, Cedartown	200
Mill Pond, Cuthbert	500
Spring Pond, Weatherford	35
Bills Mill Pond, Cuthbert	150
Golden Camp Lake, Augusta	250
Clarks Pool, Emerson	150
Pearl Pond, Atlanta	150
Lakewood Lake, Atlanta	200
Tates Pond, Jasper	150
Beach Lake, Cuthbert	150
Ginn Pond, Hamilton	150
Walls Fish Pond, Dalton	150
Camps Pond, Dalton	150
Mill Pond, Meansville	200
Wilsons Fish Pond, Boneville	200
Chandlers Pond, Juniper	150
Harrisons Pond, Crawfordsville	200
Shuppa Pond, Columbus	200
Massus Creek, Rockledge	500
Rogers Pond, Coleman	300
Underwoods Pond, Atlanta	150
Illinois:	
Meredosia Bay, Meredosia	1,000

Details of distribution—Continued.

Species and disposition.	Fingerlings, yearlings, and adults.
Bream—Continued.	
Kentucky:	
Fish Pond, Crittenden	45
Shelbyville	80
Frankford	66
Bowers Pond, Lancaster	65
Little River, Hopkinsville	150
Lake Ellerslie, Lexington	65
Bagley Pond, Crittenden	45
Dowling Pond, Lawrenceburg	300
Mississippi:	
Haynes Mill Pond, Brooksville	50
Mooreville Pond, Corinth	150
Bynums Pond, Corinth	100
Holley Pond, Corinth	75
Morris Lake, Corinth	75
Morrison Mill Pond, Corinth	75
Morohams Lake, Corinth	150
Fish Pond, Corinth	75
North Carolina:	
Hintons Pond, Raleigh	200
Wyatts Mill Pond, Raleigh	800
Nolichucky River, Pigeon Roost	10,000
South Carolina:	
Spring Branch, Greers	100
Fish Pond, Gaffney	100
Spartanburg	100
Honeapath	100
Enoree River, Enoree	100
Goose Creek, Otranto	100
Spring Branch, Kershaw	200
Parkers Pond, Gaffney	100
Tennessee:	
Rich Pond, Tellico	500
Loosahatchie Creek, Somerville	150
Two Lakes, Cleveland	500
Indian Creek, Fishery	658
Texas:	
Fish Pond, Decatur	85
Paris	225
El Paso	350
Clearwater Lake, Vernon	75
Railroad Tank, Coleman Junction	25
Brownwood Lake, Brownwood	125
Fair Ground Pond, San Antonio	212
Fish Lake, Palestine	240
Railroad Lake, Irene	65
Belle Branch	60
Applicants	40
Total	39,920
Cod.	
Massachusetts:	*Fry.*
Atlantic Ocean, off Gloucester	35,376,000
Vineyard Sound, off—	
Tarpaulin Cove	24,076,000
Jobs Neck	4,363,000
Lackeys Bay	1,002,000
Woods Hole	587,000
Great Harbor, Woods Hole	12,353,000
Eel Pond, Woods Hole	322,000
Buzzards Bay, off Weepecket Islands	1,376,000
Total	79,455,000
Flatfish.	
Massachusetts:	*Fry.*
Great Harbor, Woods Hole	53,476,000
Vineyard Sound, Falmouth	35,723,000
Eel Pond, Woods Hole	926,000
Little Harbor, Woods Hole	2,097,000
Atlantic Ocean, Gloucester	124,615,000
Waquoit Bay, Waquoit	3,349,000
Buzzards Bay, off Weepecket Islands	8,086,000
Total	228,272,000

Species and disposition.	Fry.
Pollock.	
Massachusetts:	
Atlantic Ocean, Gloucester	1,246,000
Mackerel.	
Massachusetts:	
Great Harbor, Woods Hole	135,000
Vineyard Sound, Falmouth	189,000
Total	324,000
Lobster.	
Maine:	
Casco Bay, near—	
Diamond Island	2,700,000
Mackerel Island	1,500,000
Southside Back Bay	1,500,000
Clapboard Island	1,500,000
Cottage Cove	1,500,000
Husseys Sound	1,750,000
Cow Island	1,500,000
Broad Cove	1,500,000
House Island	1,500,000
Fore River	1,500,000
Gulf of Maine—	
Monhegan Harbor	1,500,000
Near Metinic Island	1,000,000
Muscle Ridge Channel	1,500,000
Near Stonington	500,000
Isle au Haut	500,000
Swan Island	1,000,000
Rockland Harbor	1,000,000
Wood Island Harbor	1,750,000
East side of Portland Head	1,750,000
Whitehead Cove	1,500,000
Between Boon Island and Cape Porpoise	6,000,000
Isle of Shoals	350,000
Between Monhegan and Georges Isle	3,150,000
Between Port Clyde and Whitehead	3,500,000
West side of Long Island	1,500,000
Near Ship Cove	1,500,000
Off Boon Island	500,000
Cape Porpoise Harbor	2,000,000
Off mouth of Kennebec River	500,000
Atlantic Ocean, off—	
Whaleback Light	4,500,000
York Ledge	1,500,000
Silas Point	1,500,000
Stones Ledge	1,500,000
Coast of Maine—	
Frenchmans Bay	1,000,000
Quoddy Bay	500,000
Lubec Narrows	500,000
Moosabec Reach	1,000,000
Off Prospect Harbor	1,000,000
Near Ponds Island	1,000,000
Near Averys Rock Light	1,000,000
Massachusetts:	
Atlantic Ocean—	
Gloucester	22,350,000
Manchester	3,450,000
Rockport	3,650,000
Marblehead	1,400,000
Beverly	1,100,000
Lanesville	800,000
Vineyard Sound, Falmouth	2,088,000
Great Harbor, Woods Hole	1,979,000
Buzzards Bay—	
Falmouth	5,033,000
Gosnold	367,000
Hadley Harbor, Gosnold	215,000
Ipswich Bay, Newburyport	500,000
New Hampshire:	
Atlantic Ocean, near Ordians Point	1,500,000
Total	106,882,000

REPORT ON INQUIRY RESPECTING FOOD-FISHES AND THE FISHING GROUNDS.

By BARTON W. EVERMANN, *Assistant in Charge.*

OUTLINE OF THE WORK.

A large part of the work of this division during the fiscal year 1904 consisted in the continuation of investigations, already begun, with reference to the biology and culture of various animals of economic importance, including principally the oyster, the commercial sponges, the blue crab, and the diamond-back terrapin; studies of the fresh-water fishes of Maine and of the biology of the small lakes of northern Indiana were also continued. Several new inquiries were instituted, those of especial importance being an investigation of the Alaska salmon fisheries, a biological survey of the coast of California in the vicinity of San Diego and in Monterey Bay, and experiments in the culture of the green turtle. Various fresh-water lakes in western Washington and the waters of the Gila River basin in Arizona were examined with reference to their physical characteristics and the possibilities of fish culture. The investigations dealing with the diseases of fishes were pursued with reference to a number of special phases, as well as those already studied.

THE OYSTER.

Experiments in oyster fattening at Lynnhaven, Va.—For a number of years, as may be seen by reference to preceding reports, the Bureau has been engaged in an endeavor to develop a practical method of fattening oysters. It is the custom of many growers to transplant their oysters, shortly before putting them on the market, to beds where the natural supply of food is luxuriant and oysters rapidly fatten. In many localities such favorable places are few or entirely lacking, and the oysterman is compelled to put inferior stock upon the market and thus forfeit the full measure of profit.

The experiments which have been carried on by the Bureau under the direction of Dr. H. F. Moore and in the immediate charge of Col. W. W. Blackford, of Lynnhaven, Va., are intended to develop a method of artificially producing these fattening beds in localities where they do not naturally exist.

A bight of Lynnhaven Bay, embracing a water area of 2.6 acres and an average depth of about 2 feet, has been cut off from the open waters of the bay by a dam, excluding all but the highest storm tides.

The food of the oyster consists mainly of microscopic plants, of much beauty of form and color and remarkable motility, known as "diatoms." These, like the higher plants, are dependent for their growth or multiplication upon the supply of inorganic salts in the water. Ordinarily this is obtained by the natural drainage from the land, and consequently oyster food is generally more abundant in the neighborhood of the mouths of streams having rich and extensive drainage basins. Warmth during at least a part of the year is also an important factor in the multiplication of diatoms, and consequently shallow waters, rather than deep ones, are usually better for fattening beds, other conditions being equal. Under the system in vogue in France shallow ponds apparently of themselves satisfy the conditions, but this was not the case at Lynnhaven. There was evidently a dearth of useful saline constituents in the water, and to supply this commercial fertilizers were introduced. The result was prompt, and there was an almost immediate increase of diatomaceous growth in the pond.

This abundance of food having been secured, oysters were placed in various parts of the pond, but the results were mainly negative, and a study of the conditions indicated that this, in a measure at least, was due to the absence of currents to waft the food within reach of the sessile oysters. In the following year a remedy was found. At one side of the pond, or claire, a canal 150 feet long and about 8 feet wide was constructed of sheet piling. A circulation of water through this canal, and returning via the open waters of the pond, was secured by the use of a propeller operated by means of a gas engine, thus simulating the conditions supplied on the natural beds by tidal movements. The result of this arrangement was very satisfactory, and oysters placed in the canal were fattened, in some cases within a period of eight days, much improving their value on the market.

New difficulties were encountered, however, and to the present time these have not been removed. There developed at times in the fattened oysters a decidedly marshy taste, which was eventually traced to an abundant growth of filamentous algæ in certain portions of the claire. The same saline richness of the water which proved so favorable for the diatoms was equally favorable to the growth of other vegetable matter. It was found that a limited application of lime water retarded or destroyed the algal growth, but it was necessary to exercise constant watchfulness and frequently the affection would develop suddenly and stop the shipment of oysters at a time when they were bringing the best prices. During the present year it was found, too, that there was some danger in the application of lime, a variation in the methods previously used having resulted in the destruction of a large proportion of the diatoms. At the close of the fiscal year experiments were being conducted with extremely attenuated solutions of copper sulphate, after the method of water purification developed and recommended by the Department of Agriculture.

A second difficulty was the gradual freshening of the water in the claire during periods of excessive rainfall. To overcome this, a propeller pump was installed to maintain constant fullness of the pond by pumping water from the bay to replace that lost by evaporation, the pump being driven by the same engine which operated the propeller for maintaining currents. The results were entirely satisfactory.

In general it may be stated that the feasibility of fattening oysters by this method has been amply demonstrated, but owing to the many unforeseen difficulties and delays encountered it has not been possible to operate the claire at its full capacity, and the commercial possibilities of the system have not yet been developed.

Experiments on the North Carolina coast.—The experiments and investigations in oyster planting and oyster culture begun on the North Carolina coast in 1902, in collaboration with the geological and natural history survey of North Carolina, have been continued by the Bureau through the Beaufort laboratory. The work has been conducted in Pamlico Sound and Newport and North rivers, but in the past fiscal year was confined to Pamlico Sound.

The object of these experiments is primarily to ascertain to what extent and with what profit the great areas in this region now barren of oysters may be made productive, whether the absence of oysters in a special region is due to other causes than the lack of cultch, and what method of planting is best suited to the particular combination of conditions (bottom, depth, abundance of spat, salinity, food, etc.) prevailing in a particular locality.

Private planting seems to be on the increase; while yet very limited, it is apparently more common and more profitable than it was a few years ago. In at least one region (Portsmouth) such planting has already proved to be cramped by the scarcity of "seed." Large areas convenient to such places, but not adapted to yield a market product, might be utilized by private persons or by the State for growing seed oysters. It is also to be determined whether the present natural beds may be artificially enlarged.

Thirty plants were made during 1904, there being now a total of 35 plants in 13 localities. Some of these plants have been made not with the immediate object of creating small oyster rocks, but to answer certain definite questions; for instance, before making extensive plants in doubtful places it is advisable to ascertain whether spat will catch in such an area, and to what extent sanding up or sinking in the mud may be expected to occur. A small ridge or mound may in some cases be a satisfactory preliminary plant. If there is an area in Pamlico Sound where a set will not occur it will be encouraging to know this. On the other hand, if an area should be found where spat will not set, a rare opportunity will thus be discovered for interesting experiments to throw light on important open questions concerning the distance of setting place from birthplace of an oyster and the value of placing a few spawning oysters in a bed.

EXPERIMENTS IN SPONGE CULTURE.

The experiments in sponge culture which this Bureau has been conducting for several years, and references to which have been made in previous reports, have been continued during the present year under the direction of Dr. H. F. Moore. The general methods followed have not diverged materially from those employed during the past two years. The sponges are cut into pieces about 1 inch square and 2 inches long, with a slit about 1 inch deep in a plane parallel to one of the long sides of the cutting. The slit is placed astride of the wire or line used for a support, and the two faces are bound closely to-

gether, with the result that they eventually fuse into an organic whole surrounding and closely embracing the line.

The experiments of the present year have been directed mainly to testing various materials for the supporting wires, which are festooned between stakes planted in the bottom about 25 to 30 feet apart, with the cuttings distributed along them at intervals of about 1 foot. The experience of the preceding fiscal year demonstrated that though the organic adhesion of the young sponge to its support was not essential, it was of very material advantage. When organic attachment does not take place, there is always the liability that the sponges will become loose, owing to the corrosion or loosening of the short lengths of wires by which they are secured to the main supporting wires. When this takes place it necessitates refastening, otherwise the sponge rotates under the action of the waves, becomes abraded at its point of attachment, and if inverted undergoes the necessity of an entire readjustment of its circulatory canal system. An inverted sponge tends to reverse the direction of the internal water currents by which it feeds, breathes, and excretes, the original oscula, or openings for the escape of the water, closing up and new ones being formed on the new upper surface. While this is going on, the sponge is apparently at a disadvantage in the performance of its functions, and there is a retardation of growth.

Any arrangement, then, which will obviate the expense of refastening and insure the maintenance of the cutting's original orientation with respect to its support and to the horizontal is a distinct advantage. Previous experience had shown that lead possessed this property, but that lead wire is too weak to support even its own weight in the lengths necessitated by the conditions of the experiment, and in the preceding fiscal year the expedient was tried of using ordinary tarred marline with a thin casing of lead. The marline supplies the required tensile strength, and the lead, besides serving as a protecting covering for the cordage, furnishes the desired surface for the attachment of the sponges. The cuttings within a week attach themselves to the lead and soon form an adhesion sufficiently close to prevent oscillation in the waves and yet not so close as to offer an impediment to their removal from the wire when it is desired to harvest them. Lead-covered marline had been in use for twenty months at the close of the fiscal year, and yet showed no indications of impairment in strength. It must last twice that long, however, to demonstrate its usefulness.

When leaded marline was first employed the lines were rigidly attached to the stakes, but the continual swaying in the waves caused repeated flexure near the point of attachment, and resulted in fracturing the inductile lead and abrading the marline core to the breaking point. A flexible attachment is now employed, and there is no longer this difficulty.

Asbestos cord, treated with a mixture of paraffin and asphaltum and incased in lead, and lead-covered underwriter's wire have also been tried, with results in general similar to those above described.

With the use of lead it became necessary to abandon aluminum wire for attaching the sponges and closing the slit, as electrolytic action destroyed it before it could serve its purpose. Rubber bands are now employed instead, care being exercised to have them of such length,

compared to the size of the cutting, that no undue pressure is exerted on the tissues of the sponge.

The growth of the sponges during the year has been satisfactory, some of them having attained a size of over 5 inches at the age of thirty months. Others, eighteen months old, are 4 to 4½ inches in diameter. At Anclote Key there has been a somewhat alarming mortality among the larger ones, and this may indicate the beginning of serious difficulties, as there is a possibility that these sponges may be approaching their limit of growth, if such exists. At Sugar Loaf Key and in Biscayne Bay, where the growth has been slower, this difficulty has not developed. During the next fiscal year this matter will receive special attention, as the experiments are now approaching a critical stage. No apprehension is felt that insuperable difficulties will be encountered.

THE BLUE CRAB.

The investigations and study of the life history of the blue crab in Chesapeake Bay begun by Prof. W. P. Hay in 1902 have been continued by him during the past fiscal year when opportunity offered. Many important observations were made at Crisfield, Md., and at other places. The results of these investigations have been set forth by Professor Hay in a special report to be issued by this Bureau.

THE DIAMOND-BACK TERRAPIN.

During the summer of 1903 Professor Hay also continued his studies of the terrapin of Chesapeake Bay, these investigations having been undertaken for the purpose of determining what, if anything, might be done to preserve this important fishery. Recent observations of the terrapin market indicated a serious decrease in the size and number of these animals sold and an increasing difficulty on the part of the dealers in securing terrapin of commercial size. The native Chesapeake Bay terrapin had become alarmingly scarce and the firms engaged in the business were securing much of their stock from the Carolinas and southward.

The experiments carried on by Professor Hay were directed chiefly toward a study of the life history of the terrapin and the discovery of proper methods of caring for them while confined in pounds or other artificial inclosures. Little difficulty is experienced in retaining them in inclosures or in feeding them, but conditions under which they will breed freely while in such inclosures have not yet been found, and difficulty has been experienced in providing proper conditions for the development of the few eggs that are produced. Another difficulty has been to retain the young hatched in the pounds; while yet very small they frequently disappear and can not be found. The obstacles to success, however, do not seem insurmountable, and it is believed that a satisfactory method of terrapin culture will soon be developed.

In early September the operations were transferred to Crisfield, where, at the pound belonging to Messrs. Tawes & Riggin, there was an opportunity to study a number of species of diamond-back terrapin and their behavior in captivity. It was ascertained that four well-marked species and one subspecies of the genus *Malaclemmys* are now being sold for food, and that all of these can be profitably im-

pounded in Chesapeake waters. As the entire lot of terrapin marked during the summer of 1902 was found to have lost the tags, another effort was made toward ascertaining the rate of growth by tagging over 100 individuals and releasing them in this pound. Early in the spring of 1904 the Bureau decided to establish a small experimental pound of its own, and for this purpose selected a spot on the Choptank River near Lloyds, Md. Six pens, about 20 by 40 feet, were built and stocked with the best Chesapeake terrapin. An abundance of flowing water and food is assured, and there are sand beds and sunning banks extensive enough for every purpose. It is hoped that by the end of another season definite information will have been obtained regarding the possibility of artificially propagating these vanishing animals.

THE GREEN TURTLE.

A comparatively few years ago green turtles were abundant on the coast of Florida, and their capture gave employment for a part of the year to a considerable number of fishermen. They were shipped to the northern markets in considerable numbers, and their flesh and eggs were common articles of diet on both the east and west coasts of the State. So persistently were they sought, however, and so recklessly were their nests on the beaches robbed of the eggs, that the species is now seen but rarely, and the fishery has ceased to exist. The green turtles now put on the markets come mainly from the coast of Mexico and Central America, and the price has risen until turtle meat is regarded as more or less of a luxury, even in places where it was formerly abundant. The demand for small turtles has always been greater than the supply, and they command a proportionately higher price than the larger sizes. The market for them could be greatly enlarged if it were possible to procure them, and it is the opinion of the Bureau that this demand may be met by employing some method of turtle culture. Toward the end of the fiscal year experiments were begun, under the direction of Dr. H. F. Moore, with a view to developing a practical method of raising turtles from the egg. A considerable number of eggs have been obtained, and are now undergoing incubation. When hatched the young will be placed in a suitable inclosure and experiments will be made to determine the most suitable food and the best manner of rearing them. Later an attempt will be made to breed the turtles in captivity.

ALASKA SALMON INVESTIGATIONS.

At the close of the preceding fiscal year, as stated in the last annual report of the Bureau, a special commission had been appointed by order of the President to study and report upon the condition and needs of the Alaska salmon fisheries, and, under the direction of Dr. David S. Jordan, of Stanford University, had reached southeast Alaska and was just entering upon its duties in July, 1903. Shore parties were established at Loring, in southeast Alaska, at Karluk, on Kadiak Island, and at Nushagak, in the Bristol Bay region, these being considered three of the most important fishing centers and affording opportunity for investigation, throughout the season, of the local conditions and the fisheries there carried on. The habits of the various species of salmon and the problems of their culture in those

regions were also studied. Practically all of the salmon canneries, salteries, and fisheries in southeast Alaska, also those at Yakutat Bay, Kadiak Island, Chignik Bay, and Bristol Bay were visited by the commission, and their methods investigated. Interviews and conferences, also, were held with the officials of many of the canning companies, and with various persons interested in the different phases of the salmon industry, to the end that a clearer understanding of the problems involved might be obtained.

Incidental to the salmon investigations numerous dredgings were made by the steamer *Albatross* at various depths in the straits and fiords of southeast Alaska and about Kadiak Island, Afognak Island, and Yakutat. These investigations had in view the development of the aquatic fauna of Alaska, and resulted in large and interesting collections, not only of fishes, but of mollusks, crustaceans, and other invertebrates. These collections have been assigned to specialists for study and report.

The salmons of the Pacific.—The salmons of the Pacific differ notably, as a whole, from the single species called salmon (*Salmo salar*) on the coasts of the North Atlantic. Anatomically they differ in several details of structure; in habits the distinctions are still more marked. Normally the Atlantic salmon survives the reproductive act and returns to the rivers at the spawning time for several years. The Pacific salmons, on the other hand, have more definite runs. The greater part of their lives is spent in the sea, and they run into fresh water only at spawning time. During this period they take no food of any kind, the oil of the body is consumed, the flesh becomes dry and pale, the jaws of the males become much elongated and distorted, the front teeth are enlarged, the color is changed, and the whole body becomes greatly distorted. Death follows within a few days after spawning. There is no evidence that any individual of any species of Pacific salmon ever survives the reproductive act.

All the Pacific salmons spawn on a falling temperature, when the water is already cool and becoming colder. Freezing kills the eggs, but any temperature between 54° F. and freezing is favorable to their development; above the former point the eggs develop precociously and the young fish are apt to die. In the more northern rivers a temperature of 54° is reached earlier, and for this reason the run of salmon occurs earlier in those regions than in the southern waters of Alaska. All the species spawn by preference in running water, though occasionally some individuals spawn in lakes. The spawning beds are usually on gravel bars, and in the spawning act the gravel is pushed about, not for the purpose of covering the eggs, but rather as a part of the spawning act itself; pressure against the gravel aids in the extrusion of the eggs. The male covers the eggs with milt, and in so doing also moves the gravel about to some extent. This fact is a matter of importance where different species, or different schools of the same species, spawn upon the same beds, the later comers disturbing more or less seriously the eggs of those which have preceded them.

There are five species of salmon in Alaska and neighboring waters, and they are identical with the species found on the coasts of British Columbia, Washington, Oregon, and California. These five species are well defined, and differ widely in habit and in commercial value, a matter of vital importance to an understanding of the salmon question.

(1) The chinook salmon, *Oncorhynchus tschawytscha* (Walbaum), is called king salmon or spring salmon in Alaska; spring or chinook salmon on Fraser River and Puget Sound; chinook, quinnat, or Columbia River Salmon on the Columbia; and Sacramento River salmon in California. It is called tyee salmon where the Chinook jargon is spoken, and *tchavitche* among the Russians. It reaches a larger size than any other species, the average weight of those caught in the commercial fisheries being about 22 pounds, while examples weighing 40 to 60 pounds are not rare, and occasionally individuals have been taken which had reached the enormous weight of 80 to 100 pounds.

In quality of flesh the chinook salmon is superior to any other. Its flesh is red, rich, tender, and deliciously flavored, becoming paler in color, however, and less rich in flavor as the spawning season approaches. This salmon may readily be distinguished by its large size, the presence of round, black spots on back and tail, 15 to 19 branchiostegals, and 18 or 19 rays in the anal fin. As the breeding season approaches, the colors become duller and the sides blotched with dull red.

The chinook salmon runs in the large rivers, especially those having glacial or snow-fed tributaries. Its chief run is in May and June in the north, in June, July, and later in the Columbia, and still later in the Sacramento. In the Columbia and Sacramento there is a more or less distinct run in September. In northern Alaska the principal run is in May; in Bristol Bay, about the middle of June. This salmon goes to the very headwaters of the streams it inhabits, in the Columbia reaching the Sawtooth Mountains in central Idaho, and the headwaters of other streams furnishing suitable spawning grounds. In the Yukon some individuals are said each year to ascend to Caribou Crossing on Lake Bennett, a distance of 2,250 miles from the sea.

In Alaska the fish runs in appreciable numbers in the Stikine, Taku, Chilkat, Alsek, Kussilof, Copper, Knik, Nushagak, Yukon, and Kowak rivers. It is not abundant in southeast Alaska, though small schools are sometimes seen in pursuit of schools of herring, and occasional individuals may be taken any month in the year at certain places, particularly in Chatham Strait. It is not believed that the species goes far out to sea, or for any great distance from the mouth of the stream in which it was spawned.

(2) The red salmon, or red-fish of Alaska, *Oncorhynchus nerka* (Walbaum), is known in the Columbia River as blueback salmon, and on the Fraser River and in Puget Sound as the sockeye, a Chinook word originally spelled *sukkegh*. By the Russians it is called *krasnaya ryba*, which means redfish.

This species is the neatest in form and most symmetrical of the salmons. Its usual weight at maturity is about 7 pounds, the range being from 3 to 10 or 11 pounds. The largest example seen in Alaska during these investigations was taken in Chignik Bay and weighed 10 pounds 8.5 ounces. The flesh of this salmon is deep red and of good quality, though much less juicy than that of the Chinook; it is firmer than that of any other salmon and lends itself readily to canning processes. In the sea the fish is clear sky blue on the upper part of its body, silvery below, and without spots. After entering the rivers to spawn, the color changes to crimson, at first very bright,

but soon becoming darker blood red and more or less blotched. The head, in marked contrast with the body, becomes a bright olive-green in color. In the males the back becomes somewhat humped and the jaws become extravagantly produced and hooked.

In Alaska this species runs chiefly in July. It is said to run long distances up the Yukon and to the headwaters of the Columbia, in the Sawtooth Mountains. It almost invariably spawns in small streams tributary to lakes, occasionally in the lakes themselves about the mouths of the tributary streams. It rarely, if ever, runs in any stream which has not somewhere in its course a lake with available spawning grounds in the stream or streams at its head. These streams are often very small, perhaps only a few feet across and a few inches deep, but the salmon may enter them in great numbers. The determining factor is always the presence of a lake with suitable spawning beds above it, whether the lake be only a few rods from the sea, as at Boca de Quadra, or many hundreds of miles, as in the case of the Columbia.

With the red salmon and the chinook of the usual size there are often found much smaller individuals. Among the red salmon these seem most abundant at Chignik Bay, where they are called "Arctic salmon." The small red salmon of Necker Bay, Baranof Island, are probably of the same nature.

(3) The silver salmon, *Oncorhynchus kisutch* (Walbaum), is called silversides or silver salmon in the Columbia, coho on Puget Sound and the Fraser River, and coho or silver salmon in Alaska. To the Russians it is known as the *kisutch* or *bieloya ryba*, which means white-fish. The flesh of this species is less firm than that of the red salmon and is rather pale, not possessing the deep-red hue of the latter; also, the scales fall off more readily when the fish is handled. In flavor the flesh is distinctly better, and only the pale color keeps it from ranking with the best of salmon. The silver salmon ascends the streams for short distances only, and when in salt water it seems to remain close inshore. The young can be taken with a seine along the shores in Alaska at almost any time, and seem to remain in the rivers longer than the young of the other species. The run occurs in the fall, and does not usually begin before the middle of August, continuing until late in September. In southeast Alaska the species is quite abundant and is increasing in importance each year. Usually the canneries pay the fishermen the same price for this that they pay for the red salmon. It is canned as "Coho," or "medium-red" salmon.

(4) The humpback salmon, *Oncorhynchus gorbuscha* (Walbaum), is known to the Russians as *gorbuscha*, and to the trade as pink salmon. It is the smallest of the five species of Pacific salmons, seldom weighing more than 6 pounds, and usually not exceeding 3. It may be readily distinguished by its very small scales and the presence of oblong black spots on the tail. The flesh is very much less firm than that of the preceding species, is pale in color, and the characteristic salmon flavor is less pronounced. When fresh and directly from the sea it is very palatable and wholesome, and is generally regarded, next to the chinook, as the best of all the salmon when fresh. As a salted fish it also ranks well, and salted humpback bellies are esteemed a great delicacy. It does not keep well in a fresh state, however, the flesh becoming soft very soon after taken out of water, and becoming

tainted in forty-eight hours or less, even in the cool climate of Alaska. By the time the fish has reached the rivers on its way to the spawning grounds its flesh has lost the little oil that it had and is almost worthless as food. Only when caught some time before it would have entered the streams is it fit for canning purposes.

The humpback salmon carries the changes due to the spawning period to an extravagant degree, the distortion of the jaws and the development of the hump on the back being excessive and giving the fish a remarkable appearance. It is the most abundant salmon among the Alaskan islands, existing in millions, and swarming everywhere along the shores and in waters near the sea, in streams, brooks, lakes, swamps, and brackish estuaries—in fact, in all places where a little fresh water can be found. It does not ordinarily go far from shore, and does not run up the stream for great distances. It does not frequent the larger rivers, and is therefore almost unknown in the Sacramento and Columbia, and even in the Fraser; but most of the smaller rivers in Alaska are crowded with humpbacks. On account of its great abundance and the ease with which the fish is taken in nets of any sort, it is exceedingly cheap in Alaska, the price paid the fishermen by the canneries being only $7.50 to $10 per thousand fish.

Not until a few years ago was there much demand for the humpback for canning purposes, but as the canning establishments are finding it more and more difficult to fill their guarantee pack with red salmon the demand for the humpback has increased correspondingly. The species is so abundant that there has never been the least difficulty in supplying the demand.

(5) The dog salmon, *Oncorhynchus keta* (Walbaum), is known also as calico salmon, and, by the Russians, as *hayko;* in Japan, where it is especially abundant, it is called *saké;* to the trade it is known as chum. Next to the chinook, the dog salmon is the largest of the five species, reaching a weight of 16 pounds. The average of many examples weighed at Kell Bay was 8.28 pounds. It is a plump, silvery fish when fresh from the sea, and at that time closely resembles the silver salmon. Later the dark of the back tends to form vertical bars on the sides, and in the breeding season the body becomes largely dirty black, obscurely barred with dirty red, and the jaws become greatly elongated and distorted. The species enters all sorts of rivers and small streams late in the fall, but does not ascend them to any great distance from the sea. It is very abundant in southeast Alaska, and can be taken in almost any stream from the Columbia to the rivers of northern Japan.

The flesh of the dog salmon is very pale, with little of the salmon flavor and none of its color. When fresh in the spring and early summer, it is well flavored and wholesome, but when canned it is dirty white, soft and mushy, and with a strong muddy taste. As the spawning time approaches the flesh becomes still more pale and mushy. It is then wholly unfit for canning and there is little market for it.

This salmon takes salt well. In Japan, where it is the largest and most abundant salmon, great quantities are salted, and it is in Japan that a market is found for the considerable quantities salted in Alaska. When taken in the spring, frozen fresh, and sent in cold storage to the East and Germany, it sells readily.

The relative food values of the five different species of Pacific

salmon when canned may be roughly expressed by the five digits, thus: Chinook, 5; red salmon, 4; coho, 3; humpback, 2; and dog salmon, 1. The coho might be placed at 3.5, or even a little closer to the red. The canned product has at the present time approximately these relative values, but the aggregate value of the red salmon now exceeds that of the chinook.

Besides the five species of salmon, five species of trout are found in Alaska. These are the steelhead, Dolly Varden, cutthroat, rainbow, and Great Lakes trout.

Commercially, the steelhead (*Salmo gairdneri*) is the most important of the trouts, but it is not abundant anywhere, though frequently taken in southeast Alaska about the mouths of the larger streams, which it enters for the purpose of spawning. It is a fine large fish, reaching a weight of 10 to 35 pounds, and may be distinguished from any species of salmon by its smaller anal fin, its numerous black spots, and its short head. As a fresh fish it is excellent for food, and when frozen finds a ready market in the East. It is sometimes salted, but is not much used for canning in Alaska, chiefly because it is not obtainable in large quantities. It has been canned to some extent on the Columbia, and is not inferior to the red salmon for that purpose.

The Dolly Varden trout (*Salvelinus malma*) is miscalled "salmon trout" in Alaska, where it is by far the most abundant of all the trouts, swarming in every stream and lake and about the islands from the Columbia River to Bering Sea. It attains a weight of 8 to 12 pounds, though examples of a greater weight than 1 or 2 pounds are not often seen. It is a fairly good food fish, but is of little economic value except about the towns where it may be consumed fresh, since it can not be taken in such numbers as the canning interests require, and it is too small for advantageous sale in cold storage. As a game fish it offers excellent sport to the angler in almost every stream or lake in Alaska. In fresh water the color is rich dark blue or olive, with crimson or orange spots; in the sea it changes to steel gray with spots of paler gray.

This trout is the most persistent and destructive enemy of the salmon eggs and fry. When the red salmon and the humpbacks enter the streams, the Dolly Vardens accompany them in great numbers, and may be seen at the falls and cascades leaping and jumping quite as freely and vigorously as the salmon. They follow the latter to their spawning beds, where they devour the eggs and fry by the millions. The only compensation for the destruction wrought by them lies in the fact that the salmon sometimes feed upon the young trout.

The cutthroat trout (*Salmo clarkii*) occurs sparingly in many streams in southeast Alaska and southward, and is a superior game fish. In Alaska it probably does not exceed 2 or 3 pounds in weight, and is of no importance except to the angler. It is a black-spotted trout, and may always be known by the dash of red on each side of the throat.

The rainbow trout (*Salmo irideus*) has not previously been recorded from Alaskan waters, but was found by the Alaska Salmon Commission in the streams and lakes about Loring and Ketchikan and on Baranof, Chichagof, Admiralty, Kuiu, and Prince of Wales islands. It also occurs in British Columbia, particularly at Texada Island. The species reaches a weight of 2 or 3 pounds, and is the greatest game

fish in Alaska, if not in American waters. It may be distinguished from the cutthroat by the absence of red on the throat and the larger scales; from the steelhead by the larger head, larger scales, smaller size, and more rosy coloration. It is not abundant enough to be of any value except to the angler.

The Great Lakes trout (*Cristivomer namaycush*) is common in the Yukon and other waters tributary to Bering Sea, reaching a weight of 30 to 50 pounds in the lakes at the headwaters of the Yukon. It is of some commercial importance as a fresh fish at Dawson and other mining towns in the interior.

The number of species of game fish in Alaska is unusually great. Those of chief interest to the most experienced anglers are the rainbow trout, cutthroat trout, steelhead trout, Arctic grayling, Great Lakes or Mackinaw trout, Dolly Varden trout, silver salmon, and king salmon. Others of somewhat less interest, but whose capture nevertheless affords more or less sport, are the common pike (*Esox lucius*), Alaska cod (*Gadus macrocephalus*), Alaska pollack (*Theragra chalcogrammus*), California tomcod (*Microgadus proximus*), halibut (*Hippoglossus hippoglossus*), rock trout (*Hexagrammos decagrammus*), the Sitka black bass (*Sebastodes melanops*), and several species of rockfish. The king and silver salmons can be taken by trolling almost any month in the year, but especially in spring and early summer. One of the best regions for this sport is that about Killisnoo.

Steelheads may be taken in the spring—large ones by trolling in salt water and smaller ones with the fly in the streams. Dolly Varden, rainbow, and cutthroat trout may be taken at any time with the fly in many of the streams of Alaska. They are plentiful at Ketchikan, Loring, Killisnoo, Klawock, Shakan, Hunter Bay, and Sitka. The Mackinaw trout, common pike, and Arctic grayling occur in the headwaters of the Yukon, easily reached by rail from Skagway, and the Arctic grayling is found in all the lakes and streams from White Pass to White Horse. It is one of the finest game fishes. The other less important species may be found almost anywhere in southeast Alaska, and may be taken in abundance at any time.

Methods of the Alaska salmon fisheries.—The manner of taking salmon in Alaska for commercial purposes varies with the locality. In general it may be said that the great bulk of the catch is taken by means of traps (or pound nets), haul seines, purse seines, and gill nets, and that the fishing is done in salt water.

In southeast Alaska purse seines, which are simply deep drag seines so hung as to permit of pursing by gathering in the footrope, are used in the more important streams, particularly at Karta Bay, Wrangel, Hetta, and Quadra. The number of these seines seems to be increasing, and they are regarded as a very effective means of capture, most used in narrow, deep channels and where rocky shores preclude the use of haul seines.

Haul seines, or drag seines, are used to some extent in southeast Alaska and to a considerable extent at Alitak and Chignik Bay. At Karluk they are the only nets used. They are effective wherever there are clean sandy or gravelly shores.

Gill nets are used in limited numbers in southeast Alaska at Quadra, Chilkat, etc., and at Chignik. They are effective only in or

off the mouths of the larger rivers, whose waters are more or less turbid. In clear water the fish see the webbing and do not gill well.

Traps, or pound nets, are used sparingly in southeast Alaska, more numerously in the northern than in the southern portion, while in Chignik Bay and in Bristol Bay they are used almost exclusively. They are effective when the run is large. An objection to them is that they sometimes take more fish than the canneries can use; moreover, they fish without intermission and take large quantities of other fishes than salmon, such as flounders, pollack, cod, "Irish lords," Dolly Varden trout, and other species, which are all wasted. This is a matter of slight economic importance at present, when there is little or no demand for these species in Alaska, but a trap may be very objectionable when placed in the mouth of a stream by continuously preventing the ascent of salmon to the spawning grounds. Various traps thus located, as in the lagoon of Chignik River, at the mouth of Yes Bay stream, and elsewhere, have been the subject of controversy between the salmon inspectors and the canners. The Yes Bay trap is plainly injurious.

There were in operation in 1903 in Chignik Bay and lagoon 29 traps, so located as to practically close the channel, and the traps in Wood River are open to the same objection. This condition is manifestly not to the best interests of the salmon fisheries and should not be continued. It may be noted, also, that the traps, even in Puget Sound and the Columbia River, where they are most numerous and most extensive, constitute only a small part of the fishing equipment or the obstruction to the movement of the fish. In the Columbia River there were in operation in 1903 731 miles of webbing offering obstruction to the free movement of fish, of which 710 miles are chargeable to gill nets, 5 miles to seines, 1 mile to wheels, and 15 miles to traps. In the Puget Sound and Fraser River region there was a total of 410 miles, of which 375 miles was chargeable to gill nets and only 35 miles to traps. There were 96 traps, all operated on the American side, and 3,000 gill-net boats, all operated in or off the mouth of Fraser River.

It would doubtless be better if all traps, whether fixed or floating, were entirely excluded from salmon waters, but such exclusion would render fishing in some places almost impossible, or at least unprofitable. While the traps are large and numerous in the Columbia, and the gill nets many miles in extent, the supply of salmon in that river is kept up by artificial propagation. In the Fraser River region the traps in the sea take vast numbers of salmon, but in the river itself is a perfect thicket of gill nets, especially immediately following the short weekly closed season. These conditions and the little attention given to artificial propagation in that region account in large measure for the apparent serious depletion of the Fraser River fisheries. Gill-net or trap fishing affects the supply of fish on the spawning grounds just in proportion to the number of fish taken.

Far more destructive to the fisheries than any other form of apparatus was the barricade now happily abolished by the salmon inspectors. This consisted of a permanent obstacle of logs, boards, or netting laid across the stream so that the salmon could not pass, but remained in the pools below, from which they could easily be seined out. The essential evil was that the barrier remained throughout the

season, and not a fish could reach the spawning beds. After four or five years (or the period of a generation of salmon) there would be no run of salmon in barricaded streams. This suicidal method was largely practiced in the early days of salmon fishing and canning, and still earlier by the Indians. With the canners it was a phase of the get-rich-quick idea, which has been the curse of Alaska. After long efforts the Treasury Department, through its salmon inspectors, has destroyed all these barriers, and probably none will be again erected.

In the Chilkoot River, and in some other streams, the Indians build stone or wooden stands or platforms in the shallow, swift current, and stones are placed in lines on the bed of the stream in such a way as to compel the fish when on their way up the stream to swim by the stands. When the salmon are running, an Indian stands on each platform, and with a gaff hook on a long pole sweeps to the right and left through the turbid glacial water. The fish can not be seen and are struck at blindly, but considerable numbers are taken in this way.

The fishermen and Indians condemn the pound nets and stationary traps, chiefly because these structures take the place of their own labor. This criticism is applied to all labor-saving devices, and is worthy of no consideration from the economic side.

The canning and salting of salmon.—The first canneries in Alaska were built in 1878, one at Klawock and one at Sitka. Gradually the number increased, until in 1902 there were in operation in Alaska 64 canneries and 19 salteries, and the pack in that year amounted to 2,631,320 cases of forty-eight 1-pound cans each. In 1903 the number of canneries operated was reduced to 60, distributed geographically as follows: Southeast Alaska, 21; Prince William Sound, 2; Cook Inlet, 2; Kadiak Island and Chignik Bay, 8; Bristol Bay, 27. The total pack for 1903 was 2,246,210 cases, valued at $9,748,599.

The salteries are usually establishments of small capital, dealing chiefly with the humpback salmon. In most cases only the belly is salted, the rest of the fish being thrown away. This can hardly be called waste, as the belly is the best part, and the fish swarm in millions. Moreover, all the adults would die after spawning, and at present undoubtedly enough are permitted to spawn to keep up the supply.

In Taku Bay is a cold-storage plant where king salmon, dog salmon, and steelheads are frozen and shipped to the eastern States and to Germany. There is an extensive oil and guano establishment at Killisnoo. The principal species taken for this purpose is the herring (*Clupea pallasii*), but considerable numbers of humpback and dog salmon are now used both for the oil and for fertilizer. This establishment also salts a good many humpback and dog salmon bellies and herring. The dog salmon bellies are cut small, to conform in size to the humpbacks, and all are sold as "pinks."

Value of the Alaska salmon fisheries.—The vast importance of the salmon fisheries of Alaska is not realized except by those who have given the subject special consideration. The value of the pack for 1903 ($9,748,599) exceeds the original cost of Alaska by more than $2,000,000, and the entire mineral output of the territory for 1901 by nearly $3,000,000. If to the value of the salmon there be added that of the halibut, cod, herring, and other fishing industries, it is evident

that the fisheries of Alaska greatly surpass in value all the other resources combined.

Protection of Alaska salmon.—The very large capital invested in the Alaska salmon fisheries and the enormous annual product which those fisheries yield demand that everything possible be done to insure their permanency, and it is evident that to this end the fishes must be given protection commensurate with the destruction from all causes. This must be accomplished in one of two different ways—by actual limitation of the catch, so that a large number of fish may reach their spawning grounds, or by artificial propagation on such a scale that the fish destroyed by the canners will not be missed. These two methods may be considered separately.

In the first place, barricades or obstructions of all sorts in the streams should be prohibited. It is also important that no nets of any kind be used in the smaller streams, like those in southeast Alaska and in the Kadiak region, for in these small streams there are pools and pockets and small lagoons from which, by persistent seining, all the fish could be taken. Moreover, nets can be so placed as to have all the effect of barriers. For the same reason nets and traps should be excluded from lakes and lagoons.

Hook-and-line fishing should be permitted at all times, as the salmon never take food in fresh water, and snap at the hook only when annoyed by it. The Indian spear and gaff may perhaps be permitted in the rivers, because this method has been used from time immemorial, and the number of fish thus taken is inconsiderable.

The streams being free from nets or barriers, other forms of protection are of minor importance. At present there is no pollution of streams in Alaska. There are practically no factories. Lumber is sawed for local consumption only, and the sawmills, usually attached to canneries, are all on the sea. Should they ever be established at the head of lakes, the spawning grounds of the red salmon will be destroyed. The destruction of the forests above the spawning grounds would be almost fatal to the salmon in the streams concerned. It is, in fact, very important for the salmon industry in southeast Alaska that the Government reserve from settlement the catchment basin of every red-salmon stream—at least every red-salmon stream suitable for hatching purposes—thus protecting them from loss of timber, from sawdust, from placer mining, and from pollution from oil wells.

Another form of protection would be the shortening of the fishing season, or making the catch more costly, thus limiting it. Either of these means would be legitimate, and without hatcheries both will be found necessary.

The recommendations of the salmon commission are on the basis of maintaining a permanent industry. The Government should not permit private citizens or corporations to destroy future industries for the sake of present gains. It is true that the streams of Alaska, unless injured by mining or lumbering operations, will retain their present character; they can be repopulated when exhausted, and a fishery industry once crippled or destroyed can be restored; but it is far more economical to prevent such destruction, and the Government should consider nothing short of it.

The key to the whole question of the future of the Alaska salmon industry is artificial propagation of the red salmon. Under natural

conditions the eggs must remain on the spawning beds many weeks, or even months, before hatching, and both they and the fry are attacked by the Dolly Varden trout, sculpins, sticklebacks, and various other enemies, including fungoid diseases. The Dolly Varden trout, which swarms wherever salmon eggs or fry are found, is perhaps the most persistent and destructive. The fish duck also does much damage. So many are the dangers which beset the young salmon that it is doubtful whether one in a hundred, or even one in a thousand, lives to maturity. By artificial propagation practically all of these dangers are eliminated. Almost every egg can be fertilized, the danger of disease can be greatly reduced, all the enemies that feed upon the eggs and fry can be eliminated, and a vastly larger proportion will reach maturity.

The special commission strongly recommends the prompt establishment of at least four salmon hatcheries in Alaska—two in southeast Alaska, one at Afognak Island, and one in the Bristol Bay region. These stations should be equipped in every way for handling 40,000,000 to 50,000,000 eggs each.

Every salmon hatchery in Alaska will require a trained and competent manager or superintendent. One who has learned the business by rule of thumb will not answer; still less one who has not learned it at all. The supply of properly trained men is still far too small for the work in this country.

It is necessary that the hatcheries be Government hatcheries, under the control of the Bureau of Fisheries. The work can not be done in any other way. A hatchery costs as much as a cannery, and only one or two of the strong companies can meet that expense. The feebler ones can not do it. Moreover, but few of the canneries are located where hatcheries are possible, and the Treasury order requiring each cannery to maintain a hatchery is necessarily a dead letter.

A wise administration of the fisheries will permit the taking of the largest number of fish compatible with the maintenance of the supply, and will permit their capture by the cheapest method which is not wasteful. With these conditions in mind we may outline what would have been from the beginning the wisest policy for Bristol Bay, where the conditions are in some respects unique. It is believed that these measures, to a very large extent, are still applicable.

(1) Fishing should be confined to such portions of the bay as are available and to the estuaries at the mouths of the streams. A very large proportion of the fish now captured in Bristol Bay are taken on the grounds here indicated. The only exceptions are Wood River and the Egushak (tributary to the Nushagak estuary), a single trap 35 miles above the mouth of the Kvichak River, and a certain amount of gill netting now prosecuted in the Naknek, Igigik, and Ugashik rivers at points above any reasonable interpretation of the term estuary. A careful inspection of the field has shown that although the companies interested would not voluntarily relinquish any part of the privileges they now enjoy, the privilege of fishing in the upper rivers could be withdrawn without serious injury to any established industry. The proposed restriction is considered of primary and overwhelming importance for the continued maintenance of the fish supply, in the face of present conditions and of those sure to develop in the immediate future.

(2) It would be well if the use of traps or other fixed appliances for the capture of salmon could be prohibited in the Bristol Bay region. If, however, fishing were restricted to the estuaries, the immediate purposes of this prohibition would be largely accomplished. The estuaries are for the most part unsuitable for the use of traps. Storms and the strong tidal currents which obtain there frequently demolish the nets, the muddy water is less favorable for their successful operation than the clear water of the upper rivers, and the floating débris, passing back and forth on the tides, clogs the meshes. The recent history of traps in this district has shown a constant movement out of the estuaries into the upper rivers, nearer and nearer to the immediate spawning grounds of the salmon. During the season of 1903 but two traps were in successful operation in the estuaries of any of the Bristol Bay rivers, and these two were in especially favorable localities, which could perhaps not be duplicated; but the number of traps in the upper streams has steadily increased.

Although, as has been said, the immediate purposes of the prohibition of traps would be largely accomplished by preventing their use, or that of any fishing device in the upper rivers, it would yet be wise to make the prohibition of traps absolute at this time, when no considerable interests would be imperiled thereby and there are no extensive vested rights opposed to the regulation. There is no question that all the salmon which now or in future can safely be spared from the run of spawning fish can be obtained readily and cheaply by the use of the gill net.

All the considerations that have been urged for the prohibition of fishing in the upper waters, away from the estuaries, apply with especial force to Wood River. This stream, as has been shown, forms the highway to the principal spawning grounds of the red salmon in the Nushagak district. Exclusion of the salmon from these spawning grounds means, it is believed, inevitable disaster to the fisheries, and that such exclusion is being rapidly accomplished admits of no denial. During the summer of 1900 but one fish trap was operated in Wood River (see Moser, Alaska Salmon Investigations, 1902, p. 201), and no record exists of any gill netting in the stream itself. In 1903 no fewer than six traps were in operation, occupying especially favorable localities along the lower 15 miles of the river. In addition, extensive gill netting was resorted to along this same stretch of the stream. The traps are permitted, by the regulations now in force, to obstruct one-third of the channel, while the gill nets average 500 or 600 feet in length. Some reaches of the river in which fishing is carried on by both traps and gill nets do not exceed 800 feet in width. The result is largely the obstruction of the stream to the ascent of fish, an obstruction which becomes almost absolute during seasons when the run is poor or only moderately good, as in 1903; and, bad as are the present conditions, there are reasons for believing that they will grow rapidly worse. Even such cannery superintendents as most sincerely deprecate the folly of the present system find themselves compelled by fierce competition to permit no advantage, however slight, to their rivals, and against their judgment they are now preparing to invade Wood River or other available streams. On account of its preeminent importance, Wood River demands immediate attention. Should the general legislation above recommended fail of enactment, Wood River and lakes should receive special consideration.

In the judgment of the special commission, the statutes governing the salmon fisheries of Alaska should contain the following provisions:

1. Barricades of all kinds in all streams and lakes should be prohibited, except for fish-cultural purposes.

2. In lakes and in streams of the second class—namely, those under 500 feet in width and having a tributary lake—no fishing should be allowed at any time except with rod or spear or gaff, unless for hatchery purposes.

3. No trap or pound net, floating or fixed, should be permitted within 1 mile of the mouth of any stream less than 500 feet in width, and flowing from a lake or having a lake tributary to it. In the case of each stream of this class, the Bureau of Fisheries should mark in some conspicuous way the point above which fishing with nets would not be allowed. Until so marked no fishing should be permitted within 100 yards of the point of discharge of such stream at mean low water.

4. The problem of the use of traps in the large streams and their estuaries is a most difficult one. If we are to consider the ultimate interests of Alaska and the permanence of her salmon fisheries, no traps should be allowed anywhere. They are most harmful where most successful, especially in the flowing streams. The traps in Wood River, and probably those in Kussilof River also, ought to be removed; those in Chignik Lagoon should at least be limited in number. But to remove the traps from those waters would practically close up the canneries depending upon them for their supply of fish; where traps or pound nets are allowed, a special permission and a special license should be required for each, and each should conform to the following provisions: No trap should be nearer than 100 yards to any other, and no trap should extend more than one-third the distance across the stream, estuary, lagoon, or arm of the sea in which it may be placed, and no net of any kind should be set which at the time of setting is within 100 yards of a net set by another person, firm, or corporation.

5. A weekly closed season should be provided, extending from 6 p. m. Saturday to 6 a. m. Monday, for all portions of Alaska, except in Bering Sea and its tributary waters.

6. All matters pertaining to the salmon and all other fisheries of Alaska, including the fur seal and sea otter, should be placed in the hands of the Commissioner of Fisheries, under the Secretary of Commerce and Labor. The personnel of the Bureau of Fisheries should be correspondingly increased, and means provided in the way of vessels for travel, to render effective the inspection of the fisheries, the investigation of the streams, and the operation of the hatcheries. The necessity for expert service, if this inspection is to be maintained, is self-evident. It demands a knowledge of the fishes, of the fisheries, of fishery apparatus, methods, and products, of statistical methods, and the methods and results of fish culture—different kinds of expert knowledge which can not often be in the possession of one man. Unless trained men familiar with fishes and fishery gear, methods, and products are placed in charge of this work the office of fishery inspector should be abolished.

7. Power should be given to the Secretary of Commerce and Labor to make, as occasion requires, such minor regulations as may be deemed necessary for the good of the industry, including the closing

of streams and lakes and of their approaches, these regulations to be made on full consideration of the various ways in which different fisheries may be affected.

In justice to the fishing interests of Alaska it is important that all these matters receive early consideration. All necessary legislation and regulations should be perfected and promulgated as soon as possible, so that the canning companies may know the conditions under which the fisheries are to be carried on next season and make their plans accordingly.

THE COD FISHERIES OF THE SHUMAGIN ISLANDS.

Representations having been made to the Bureau that the cod fisheries centering at the Shumagin Islands were becoming depleted, those islands were visited by the Alaska salmon commission and inquiries made concerning the condition of the fishery. It was found that the difficulty of securing remunerative fares is increasing year by year. Until recently an abundance of fish was found in the immediate vicinity of the islands, but now the fishermen are compelled to go much greater distances and the fish average smaller than formerly. It is believed by the special commission that the establishment of a cod hatchery at Sand Point, Pirate Cove, or some equally good location at the Shumagin Islands would not only conserve this important fishery, but build it up to proportions exceeding any previous condition. Such a station would be easy of construction and operation, and its establishment is strongly recommended.

FISHES OF THE YUKON RIVER.

Collections were made by the Alaska salmon commission in the headwaters of the Yukon, at Caribou Crossing, Yukon Territory, Lake Bennett, and White Pass. Nine species of fish were found, as follows: The Mackinaw trout (*Cristivomer namaycush*), pike (*Esox lucius*), Alaska grayling (*Thymallus signifer*), sucker (*Catostomus*), blob (*Cottus*), white-fish (*Coregonus*, 2 species), and white-fish (*Argyrosomus*, 2 species). The inconnu (*Stenodus mackenzii*) was not seen. This is the first collection of fishes made in the upper Yukon.

INVESTIGATIONS IN MAINE.

The fresh waters of this State have been under investigation for the past few years, and some of the results were recorded in the last annual report of the Bureau. The work has been in charge of Dr. W. C. Kendall, who has continued his inquiries during the past fiscal year.

Eagle Lakes of Aroostook County.—Twenty-six species of fishes were collected in this region, a greater number than has been found in any other locality of like extent in Maine. The food fishes are chiefly members of the salmon family, and include the landlocked salmon (*Salmo sebago*), lake trout or togue (*Cristivomer namyacush*), square-tail trout (*Salvelinus fontonalis*), and white-fish (*Coregonus labradoricus*, *C. stanleyi*, and *C. quadrilateralis*). Species conspicuously abundant in the southern half of the State, such as eels, yellow perch, white perch, and pickerel, do not occur in this chain of lakes,

although yellow perch are not uncommon in the St. Johns River, of which Fish River, in this region, is a tributary.

The landlocked salmon, steelhead trout (*Salmo gairdneri*), and smelt (*Osmerus mordax*) have been introduced here. The steelhead has not since been recognized, but in about ten years the salmon has increased greatly in numbers and attained large size, due to the peculiar suitability of these waters to its needs, and doubtless also to the introduction of the smelt, upon which it feeds. In about five years the latter species has attained a length of 12 or 18 inches, as ascertained by actual measurement.

Of the three species of white-fishes here represented *Coregonus labradoricus* is the largest. It reaches a weight of at least 6 pounds, and is very abundant. Another form (*C. stanleyi*, until recently undescribed) is much smaller, attaining a weight of scarcely more than one-fourth pound, but is extremely numerous. It, with the young of the others and the smelt, probably affords the bulk of the food of the trout and salmon. The round white-fish (*C. quadrilateralis*) was found to reach 1 pound in weight, but seemed to be not abundant.

This region was visited again in November, 1903, for the purpose of ascertaining the identity of a large trout locally known as the "snow-shoe trout," and to study the breeding habits of the various species of *Salmonidæ* occurring there. It was considered of importance to fish culture to determine the feeding habits of these fishes at their spawning time.

On several occasions young salmon (*S. sebago*) 6 or 8 inches long were observed eating the eggs of trout (*S. fontonalis*) as they were deposited. No salmon were observed upon the spawning grounds, owing to their being taken in a weir for fish-cultural purposes by the State commission. White-fish ascended the streams or "thoroughfares" at night for the purpose of spawning, and were followed by large numbers of suckers (*Catostomus commersonii*), which were found feeding upon the eggs. A few small cusk (*Lota maculosa*), also, were eating the eggs of white-fish, and it was learned that adult white-fish feed largely upon the eggs of their own kind and the young upon the eggs of the other species. Not only would spent fish follow up the spawning fish and eat their eggs, but gravid females were found to do the same thing. The breeding times of the common white-fish and Stanley's white-fish were supposed to overlap because the species were captured together, but it appears that the earlier spawner (*C. stanleyi*) was probably there at this time mostly for the eggs of the common white-fish.

In this locality there are no commercial fisheries, but occasionally the native French inhabitants are allowed to net the white-fish under restrictions. The fishing as now regulated is chiefly important to the sportsman, but the abundance of the white-fish in a lake system of such extent suggests a possible commercial fishery under proper regulations, which would afford to the inhabitants of Aroostook County at least a delicious fish for the table, both fresh and cured. A limited net fishery, restricted to the summer months and to certain localities, would do no more damage, if as much, as is done by fishing on the spawning beds, which is now permitted.

Union River basin, in Hancock County.—In August and early Sep-

tember the Union River basin was visited and the general fish fauna of the region, especially Green Lake, Branch and Floods ponds, was investigated. Attempts were made to secure specimens of the Floods Pond saibling, locally known as silver trout, supposed to be *Salvelinus aureolus*, but without success, although various methods were tried. In June, 1904, however, another visit was made to Floods Pond, and a good collection of this fish was secured. From information furnished by reliable men and from observation it appears that the silver trout is very much scarcer than formerly, and the fish now caught are not so large. There seem to be but a few weeks in May and June when they will take a hook. The usual method of fishing is by hand line in from 30 to 40 feet of water on the outer edge of a reef, the best bait, as a rule, being cut chub and fresh, uncooked lobster, though occasionally a fish is taken at or near the surface or in deep water on a troll, and by live minnow or worm bait. This trout is a rich, fat, and delicious fish at this time of year.

The stomachs of the specimens examined this season usually contained small smelts. Many were infested with small tapeworms, large numbers often being found in the alimentary tract of a single fish.

Rainbow Lake, in Piscataquis County.—The Bureau having received two specimens of a peculiar trout from Rainbow Lake, closely related to if not identical with the so-called silver trout of the Union River basin, though of a smaller size, it was considered desirable to visit the locality in an effort to obtain more and better specimens and to make a study of the lake and its inhabitants.

Although quite large, being about 7 miles long by 2 or more miles in extreme width, and fairly deep in places, Rainbow Lake has a very meager fish fauna. Apparently the only species other than the common trout and the above-mentioned peculiar trout, is a small minnow (*Rhinichthys atronasus*). The two trouts attain only a small size, seldom over a pound in *S. fontinalis* and still smaller in the saibling. This is probably due to scarcity of food.

Presumpscot and Royal River basins.—In these waters and the brooks tributary to Casco Bay, special attention was given to smelts, trout, and landlocked salmon. There are often found in June, in the tidal portion of many of the brooks flowing directly into Casco Bay, some silvery trout otherwise indistinguishable from *S. fontinalis*, and sometimes known as "salters." Some of these fish caught about the middle of June were found to be gorged with young eels of the translucent stage. It was a mooted question among the trout fishermen of the locality whether the fish came up from the sea or descended from the fresh water.

In June, 1904, an attempt was made to solve the question. Seines were used in the pools frequented by the trout at different times of tides, and trials were made with hook and line for a long distance below the places usually fished. The fish were found only in those pools a short distance below high-tide limit. While the water is rather salt at flood and high tide, it is practically fresh at low water; the seines took alewives (*Pomolobus pseudoharengus*) and suckers (*C. commersonii*) in the pools mentioned. These facts taken together indicate that the trout have descended from the fresh water.

Smelts begin to ascend the brooks, when the conditions are suitable, in the last part of March or early April. The runs continue some-

times up to the 1st of May or later. After spawning, the fish linger in the brooks for some time, gradually decreasing in numbers, and not infrequently dead fish are found. All of the specimens collected were spent males. While it was not postively decided whether the death of these fish was due to natural causes or to injury received from fishermen, the abundance of dead, dying, and fungus and copepod infested smelts found in fresh water shortly after the breeding season suggests that many smelts die naturally after spawning.

During spawning, and afterwards while in fresh water, food is seldom found in the smelts' stomachs, though an occasional minnow is met with. In one brook sticklebacks and small trout were feeding upon the eggs, and in the stomachs of the trout sand was mixed with the eggs, probably scooped up with them. In another brook, after the smelts had disappeared, four species of sticklebacks (*Pygosteus pungitius*, *Gasterosteus aculeatus*, *G. bispinosus*, and *Apeltes quadracus*) were found filled with recently hatched smelts. Though the mummichog (*Fundulus heteroclitus*) was numerous here, no young smelts were found in the stomachs.

In the spring of 1904, in a brook in Freeport, where in recent years the smelts had not appeared except occasionally in very small numbers, there was a large run, much like the runs of twenty or twenty-five years ago; but owing to the lack of protection on their spawning grounds these fish were taken in such numbers that probably few, if any, spawned there.

INVESTIGATIONS IN WESTERN WASHINGTON.

During the winter of 1903–4 investigations were conducted at American Lake and other small lakes in the vicinity of Tacoma, Wash., by Mr. J. Nelson Wisner, of the division of fish culture, for the purpose (1) of determining the physical characteristics of the lakes, including the character, temperature, and depth of the water, character of shores, catchment basin, inlets and outlets, with a study of local meteorological conditions, and (2) of studying the animals and plants inhabiting the different lakes, including a determination of the species and a study of their life histories. Particular attention was given to the fishes and the adaptability of the lakes to the white-fish and other species which have been introduced or whose introduction has been contemplated. The inquiries covered more or less fully the following waters:

American Lake.—This is the largest lake of the group, being approximately 4 miles long and averaging 1 mile in width, with a minimum width of less than 100 yards at the narrows joining the larger basin to the smaller, which forms the southwest portion of the lake, lying toward Lake Sequallitchew. The outline is irregular, the major axis of the lake lying northeast and southwest. The shore line is a continuous series of indentations, small coves abounding, with some 12 or 15 larger ones. The shores are low and in most places are well wooded, as is also the catchment basin, which probably does not exceed three times the area of the lake itself.

Murray Creek is the only surface inlet to American Lake, and near its mouth is about 16 feet wide and 6 to 8 inches in average depth. It is only a few miles in length and enters the lake from the southeast. The water comes largely from springs and is clear and pure. There

appears to be no surface outlet to the lake, the drainage probably being into Sequallitchew Lake by seepage.

The average depth of American Lake, based on 42 soundings, is 67 feet; the maximum depth, 106 feet. Usually the depth increases abruptly and close to shore. Temperature observations made from March 30 to April 15 show 82.5° as the maximum for the air. The surface of the water varied from 46° to 59°, the morning (6 o'clock) temperature running from 46° to 52°; the bottom temperature was found to be about 48°.

The water of this lake is clear and pure and well suited to ordinary lake fishes. The species observed were chubs, sculpins, black bass (introduced), sticklebacks, suckers, and cutthroat trout. The chubs were spawning; the spawning season of the trout had passed. Bass thrive in this lake and attain a weight of at least 4 pounds. Trout are plentiful and reach a length of 12 to 18 inches. A species of mud turtle, a salamander, and a fresh-water mussel were found to be abundant.

The Bureau has planted in various lots 637,000 common white-fish (*Coregonus clupeiformis*) in American Lake. None of the fish has been seen since, and it is not known whether any has survived. The physical characters do not indicate that this water is suited to the species.

Steilacoom Lake.—This lake is next in importance to American Lake, and its general characteristics are similar. Its greatest length is about 1.75 miles, and its greatest width less than one-half mile. Clover Creek and Davidson Creek both flow into it near the southern end on the east side. The former is a considerable stream, and is said to drain Smith, Tule, and Spanaway lakes, which lie to the southeast. The outlet of Steilacoom Lake is through Chambers Creek into Puget Sound just north of Steilacoom. The water is shallow, the maximum depth being but 17 feet, and the average of 17 soundings being only 12 feet.

This lake is of interest chiefly because of the fact that the so-called small red-fish occurs in it. The species is said to be seen only in October, at which time it is gaffed in considerable numbers. Whether it comes up from the sea is not known to the local residents. The other fishes of the lake are chubs (two species), cutthroat trout, large-mouth black bass (introduced), sculpins, and sticklebacks.

Sequallitchew Lake.—Southwest of American Lake and only a few rods from it is Sequallitchew Lake, which is about 1.5 miles long and less than one-fourth mile wide, and has a maximum depth of about 17 feet. It has no tributary streams, and its outlet is through Sequallitchew Creek to Puget Sound. The shallow, muddy bottom and the high temperature of the water do not indicate that this lake is suited to white-fish. It is, however, a fairly good trout lake, the cutthroat trout being abundant.

BIOLOGICAL INVESTIGATIONS ON THE COAST OF CALIFORNIA.

Early in the calendar year 1904 arrangements were perfected which provided for a cooperation of Stanford University and the University of California with the Bureau of Fisheries in a physical and biological survey of the waters of the coast of California, and the steamer *Albatross* was assigned to the investigation. General direction of the work

was placed in the hands of President David Starr Jordan, of Stanford University, and Dr. William E. Ritter, professor of zoology in the University of California.

The investigations were begun at San Diego, March 1, 1904, and were carried on in that vicinity for more than one month. Various localities on that part of the coast were examined, especially Cabral Bank and vicinity and the deep water beyond the 2,000-fathom curve. La Jolla submerged valley and the region about Coronado Island also received attention. In all, 82 dredging and 12 plankton stations were occupied, and plankton work was done at many of the other stations. Considerable attention was given to certain hydrographic matters, and current observations were continued for several days on and in the vicinity of Cabral Bank with interesting results. Numerous soundings in this locality resulted in establishing the extension of Cabral Bank several miles farther northward than it appears on the Coast Survey charts. As this bank is the chief fishing ground in the San Diego district, this discovery is regarded as one of the most important results of the month's work.

The few dredge hauls made beyond the 2,000-fathom curve proved of much interest. The abundance of life and the character and conformation of the bottom indicate this to be a field promising very rich results. Mention should also be made of the few hauls in the 1,000-fathom sink between Point Loma and Cortez Bank. These mark a locality which also promises interesting results for future examination.

Certain areas, particularly the Coronado submerged valley, were found to be very rich in bottom life, while others proved rather barren. One of the interesting problems for future inquiry in this region will be to determine accurately the areas of distribution and to correlate this distribution with the conformation of the bottom and the character of the bottom deposits.

The groups of animals most abundantly represented, both as to species and genera, and individuals, were found to be the glass sponges, the actinians, all the classes of echinoderms excepting the crinoids, and the crustaceans. The fish fauna is not particularly rich nor varied. A large quantity of plankton material was collected, though the work in this field was less satisfactory than the bottom collecting.

After the completion of the work about San Diego, some investigations were made off the Santa Barbara Islands in order to connect the San Diego work with the investigations which were to be taken up at Monterey Bay.

The survey of Monterey Bay was carefully planned and occupied the remainder of the fiscal year. The Coast Survey signal stations were reestablished, thus making it possible for all dredging and other stations occupied by the *Albatross* to be accurately indicated upon the chart. The geographic distribution of the various species inhabiting the bay received consideration, and that of the sessile or fixed species can be accurately platted on the map.

INVESTIGATIONS IN ARIZONA.

Early in January Mr. Fred M. Chamberlain, naturalist of the steamer *Albatross*, was detailed to study the physical and biological features of the Gila River basin in Arizona. Observations were car-

ried on at Yuma during the last half of January and the month of February, and during March and April visits were made to most of the streams in the Gila Basin. The physical characteristics of the streams were determined and their suitability for fish-cultural work fully considered, it being important that these streams be examined before irrigation operations shall have seriously modified their character. The results of these observations will be given in detail in a report now in course of preparation.

INVESTIGATION OF SMALL LAKES OF NORTHERN INDIANA.

The examination of the small lakes of northern Indiana, begun some years ago, was continued during a portion of the summer of 1903 and for a few days in June, 1904. The investigations of the present fiscal year, as heretofore, were under the general direction of Dr. Barton W. Evermann and were carried on by Dr. J. T. Scovell, of Terre Haute, Ind. The inquiries were directed chiefly toward securing data concerning the food of the various food and game fishes occurring in these lakes, and, second, toward determining the species and habits of the aquatic plants and their relation to the animal life of the same waters. The principal investigations were carried on at Lake Maxinkuckee, but more or less work was done at Bass Lake, Lake Manitau, Tippecanoe Lake, and Twin Lakes.

DISEASES AND PARASITES OF FISHES.

The study of the diseases and parasites of fishes was continued by Mr. M. C. Marsh, assistant assigned to the subject of fish pathology, and a number of special investigations were made at different fish-cultural stations of the Bureau.

The gas-bubble disease.—The mortality from this cause at Woods Hole, Mass., and at Nashua, N. H., received attention in the summer of 1903. August and part of September were spent in investigations, supplementing those already published, and, jointly with Prof. F. P. Gorham, of Brown University, some important additions to the subject were made. Simple methods of de-aeration of water supercharged with dissolved air were again effective at Woods Hole in preventing symptoms of this disease, and, later in the year, when the leaky suction pipe supplying the aquaria and hatching tanks had been replaced by a new impervious one of iron, all trouble from gas disease disappeared.

At the Nashua station the investigations were continued in the spring of 1904. They were directed chiefly to the water supply, and consisted of determinations, made at the station with field apparatus, of the dissolved air in samples of water taken from many different sources of the station's water system. The results of these analyses show that the whole station water supply, except the Pennichuck, or Nashua city water, has an abnormal content of dissolved air. All such sources of supply are abnormally high in nitrogen, and some of them are at the same time deficient in oxygen. The constantly flowing supply is mainly from two sources—one being artesian wells, the other a large reservoir pond fed chiefly by springs. This latter supply is in somewhat better condition by the time it reaches the fish ponds or troughs than is the artesian supply. In no case is the excess of nitrogen very high, and in only a few is the deficiency of oxygen

very great, but either is enough to cause some loss of fish, and the effect of the combined evils is believed to be mainly responsible for the mortality among younger fish at the station and for the poor condition of some of the adult stock.

The fact that water with an excess of nitrogen is unhealthful for fishes, and that it may be corrected and rendered harmless by a sufficient exposure to the air, is shown more by the experience at the Woods Hole station than at Nashua. At Nashua it is not easy to apply this remedy on a large scale. One experiment, however, indicates that it has a like effect. Two troughs, each containing 6,000 to 7,000 brook-trout fry, were supplied with water from the reservoir pond. One was lowered to the ground, and the water entered it from a box with a finely perforated bottom and after a fall of some 3 feet. In the other the water entered more directly. At the end of nine days the loss in the former trough was 645; in the latter, 2,583. The exposure of the water to the air had evidently reduced the loss 75 per cent. The device reduced the nitrogen and increased the oxygen, but not all the excess of nitrogen was removed, nor did the water become quite saturated with oxygen. Without doubt, were the exposure process carried further, perhaps by one or two repetitions, all the excess of nitrogen would have been removed and the full amount of oxygen added, but on account of the lack of sufficient fall this can not be done. While a deficiency of oxygen is readily corrected by fall and exposure, it is with difficulty that an excess of nitrogen is completely removed. It appears, nevertheless, from the analysis of the creek outflow, which is the whole Nashua supply after it has flowed through the ponds, flumes, etc., that this water has been almost completely corrected of its air defects. Therefore it might be used again, and if the hatchery and ponds were moved to a point below a good supply would be at hand. But this is not to be advised. If there were provided a fall considerably greater than at present is possible, and the whole station supply were brought together, the trouble could then be corrected by devices that would afford an extensive contact with the air. This would require a pumping plant to raise the water, and the plan would probably be best carried out by digging one or more large wells, which would increase the volume of supply and gather it convenient for pumping. This, however, would be expensive in first cost, and a continuing expense thereafter, and is not to be recommended.

The simplest, least expensive, and best plan for increasing and improving the water supply of the station is believed to be to tap Colerain Brook and bring its water to the hatchery. This brook rises in the drainage ditches of a meadow, and flows some 2 miles to the Nashua River. It is at present a somewhat depleted trout stream, and its water is, to all appearances, of suitable quality for fish-cultural purposes. Two determinations show it to have a proper content of dissolved air, which could hardly fail to be the case, since it is a small brook well exposed to the air by its length and the nature of its bed. Shortly before reaching the river it skirts closely the Fisheries reservation. The volume of water carried by it is subject to considerable seasonal variation, but is greatest in the winter and spring when most needed, and if carried to the hatchery would probably be sufficient to provide for all the eggs. It could be supplemented by Pennichuck water if necessary.* The water of all the hatchery wells could then be

diverted directly into the ponds—without flowing through the troughs—and at the same time could be areated and de-areated considerably on the way. Since the Colerain supply can itself be turned into the ponds from the hatchery troughs, the water of the ponds will be very greatly improved. The artesian wells rising in the ponds themselves can in most cases not be improved, since they scarcely rise above the level of the pond water, and experience may show would be better plugged up. This may apply also to the larger wells rising in the ponds.

With the Colerain supply available for the hatchery, the water of the reservoir pond could be applied to the fish ponds only, as it is at present in part. It receives considerable exposure to the air in the flume on the way to the ponds. This addition to the water supply of the station is expected to prevent most of the losses now occurring each season.

Plans and estimates are already available, the route from the brook to the hatchery having been previously surveyed by the engineer's office for the purpose of supplying the hatchery. The project was abandoned at that time in favor of Pennichuck water, the use of which entails an expense at meter rates and is not intended to be continuous.

It is interesting to note that the Pennichuck water which supplies the city of Nashua is, at its source in artesian wells, greatly deficient in oxygen and has a marked excess of nitrogen, and would certainly kill brook trout. In its course to the pumping station it is thoroughly exposed to the air by its flow as a creek of many falls and cascades, and this corrects it completely.

Water supply at White Sulphur Springs station.—A visit was made to White Sulphur Springs station in January and February to investigate the mortality among trout fry there. It was shown that the station water varied from time to time in its supply of dissolved oxygen, and was for a part of the time markedly deficient in oxygen. There was possibly at the same time a deficiency in the nitrogen dissolved, but the necessary apparatus to determine this was not available at that time. An areating and de-areating apparatus on a small scale was put in practice by lowering one trough to the floor and passing its supply through a perforated box, the water falling a few feet in slender streams. This arrangement caused a marked reduction in the losses, but did not entirely prevent them. The presumption is that a more complete process of the same sort would correct the water entirely.

Mortality at Allentown, Pa.—In October and November study was made of a mortality among brook-trout fry at the Allentown hatchery of the Pennsylvania Board of Fish Commissioners. The disease proved to be an anæmia which was finally ascribed to long-continued housing of the fry in large numbers in hatchery troughs. The progress of the disease in the affected brood could not be arrested, but terminated naturally, leaving a considerable percentage of fry in apparently good condition.

Contamination of oysters at Great South Bay, Long Island.—Representations having reached the Department of State through certain officials in London that oysters received from New York were contaminated with sewage and presumably with typhoid germs, the matter was taken up by the Bureau, and in February an examination

was made of certain oyster beds at Great South Bay, from which the contaminated oysters were alleged to have come.

Oysters freshly taken from the beds named, and similar oysters held for two or three days in floats on the bay shore were examined bacteriologically and were wholly free from sewage contamination. At Patchogue, oyster beds were found exposed to sewage, and though oysters taken from them were also free from sewage at this time, some danger must have existed, especially at other seasons. The practice of floating oysters close to shore, even when not at the mouths of creeks or rivers, was found to be more or less a menace to the health of oyster consumers.

The oysters alleged to have been impure were taken in November and December, while the investigation was made in February following. Though the beds were then found free of contamination, the method of floating the oysters near shore might easily result in their contamination during the warmer months of the season, and it is regretted that the region in question can not be entirely free from suspicion of having sent out polluted oysters. The situation is fully appreciated by the oyster dealers and the local authorities, and it is believed no further danger need be feared.

Disease at Cold Spring Harbor, New York.—In May and June a visit was made to the Cold Spring Harbor station of the New York Forest, Fish, and Game Commission to examine into the cause of a serious mortality among yearling and adult brook trout. This was determined to be due to a parasite, *Lymphosporidium truttæ*, described by Professor Calkins. The disease destroyed nearly all the older trout, and advanced, entirely unchecked by remedies. It is believed to be amenable to control as respects future outbreaks by cementing the ponds, by the practice of disinfection to kill all stages of the parasite, and by avoiding too heavy a stock of yearling and older trout.

Menhaden mortality in Narragansett Bay.—In May and June an extensive mortality among menhaden occurred in Narragansett Bay, and the disease was also found at New Bedford. By the last of June the mortality seemed to have ceased. Prof. F. P. Gorham, of Brown University, investigated the disease by making cultures from the dying or dead menhaden, and obtained a bacterial organism in all cases. At the close of the fiscal year he was studying the relation of the organisms to the disease.

Besides the more detailed inquiries, Mr. Marsh made special investigations concerning diseased fish, contaminated water supply, and other difficulties besetting fish-cultural operations at Northville, Mich.; Wytheville, Va.; Erwin, Tenn.; Allentown, Pa.; and Nashua, N. H. During the spring of 1904 an exhibit of bacterial organisms pathogenic to fishes and of others related to the fisheries was prepared for display at the Louisiana Purchase Exposition.

WOODS HOLE LABORATORY (DR. F. B. SUMNER, DIRECTOR).

The laboratory of the Bureau at Woods Hole, Mass., was thrown open on the 16th of June, 1903, for the nineteenth summer since the establishment of its present quarters, and scientific work was in progress until the end of September. The work accomplished during the

season is summarized below, together with especial mention of certain inportant lines of work which were planned and commenced.

Equipment.—In addition to the large laboratory room with 9 tables, there were 14 private rooms at the disposal of investigators, all of which are provided with gas and electricity, and otherwise equipped for research. To this must be added the library, supply room, and aquarium, as well as the main hatching room, which, as usual, was available for laboratory purposes from the end of the lobster-hatching season, early in July, and certain other portions of the fish-cultural plant which were also at the service of investigators. Early in the summer important improvements were made in the plumbing of the main laboratory, and some others have been authorized which will be completed before the opening of another season.

The steamers *Fish Hawk* and *Phalarope*, the launch *Blue Wing*, and two smaller launches were available during the whole or part of the season; also a catboat and an abundance of rowboats.

Fish pounds were set this year in Buzzards Bay at points not far from the station. A daily record was kept of the species taken, together with a rough estimate of the number of each. Such records, which have been kept for many years past, furnish valuable data concerning the annual migration of fishes. The pounds also constitute one of the important sources of suply for the materials of investigation.

One floor of the large residence building was, as usual, at the service of those employed by the Bureau to carry on special investigations.

Staff.—The staff of the laboratory during the season comprised a director, a librarian, a secretary, five salaried investigators, working upon special problems of interest to the fisheries, an assistant in charge of the supply room, an assistant in charge of the fish pounds, and nine assistants employed in miscellaneous work in the laboratory and in the field. To the above list must be added a collector, who is permanently attached to the station, and the crews of the various vessels while these are in the service of the laboratory.

Collecting trips.—Leaving out of account the daily visits to the pound nets, about 40 collecting trips were made by the smaller steam craft to various localities in the vicinity, and 15 dredging trips by the *Fish Hawk*, whose operations were confined almost exclusively to Vineyard Sound. Mention should also be made of the work of two assistants in camp at Menemsha Bight, Marthas Vineyard, where they were engaged for four days in noting the fish taken in the numerous traps at that point, and of a journey to Provincetown in quest of data relating to the food of the dog-fish. The collection and preservation of fishes, fish parasites, and other material of biological interest was continued, as usual.

Seminar.—A seminar, or research club, was established early in the season, and thereafter met weekly until near the close of the summer. It was thought that cooperation might be profitable in certain lines of research, and in general it seemed desirable that there should be some recognized medium through which the investigators might profit by the results of each other's work. The experiment proved entirely successful, and the meetings were well attended.

Catalogue of local fauna and flora.—The completion of a catalogue of the fauna and flora of the region as far as known was commenced by the director in cooperation with several others. The work as

projected contemplates much more than a catalogue in the sense of a mere list of species; certain data of practical or scientific interest are, when available, recorded for each animal and plant form. In order to admit of indefinite expansion, the whole record will be put in the form of a card catalogue, with eleven cards for each species. A fair start has already been made in this work, many of the principal reports and synopses having been abstracted, and records of about 750 species having been entered.

Biological survey of Vineyard Sound.—The *Fish Hawk* arrived at Woods Hole on the 19th of July and remained until September 10, during the greater part of which period she was at the disposal of the laboratory. It was thought that the admirable facilities for dredging possessed by this vessel could be put to greatest advantage by carrying out a systematic survey of the bottom of Vineyard Sound, a task which had not been undertaken since the days when Professor Verrill and his associates gathered the material for their reports on the invertebrate fauna of these waters.

Accordingly, dredgings were made at intervals of three-fourths of a mile along parallel lines crossing the sound, these lines being 1 mile apart. Various sorts of dredges were employed, according to the character of the bottom; the usual physical data—density of water, character of bottom, temperature, etc.—were recorded for each station, and material for a complete record of the biological data was preserved. In all, 82 stations were occupied in Vineyard Sound, ranging from Nobska Point to Gay Head. It is intended that these dredgings shall be continued and supplemented by thorough work upon the shore life of this region, thus completing a biological survey of these waters. The relation which such a survey would bear to the catalogue above discussed is obvious.

In addition to the above dredgings, a trip was made to Crab Ledge, a shoal about 7 miles east of Chatham, on Cape Cod, where 7 stations were occupied.

Miscellaneous investigations.—The results of the following investigations, which were conducted wholly or in part at the laboratory during the summer of 1903, will be embodied in special reports to be published by the Bureau:

1. The stomatopoda of the *Albatross* Hawaiian expedition. 2. Brachyura of the Woods Hole region. By Robert Payne Bigelow, Ph. D., instructor in biology, Massachusetts Institute of Technology.

Studies upon carp. By Leon J. Cole, Austin teaching fellow in zoology, Harvard University.

The food of certain fishes of little or no food value. By Irving A. Field, Denison University.

Causes of certain fish diseases. By Frederic P. Gorham, Ph. D., associate professor of biology, Brown University.

The parasites of fishes. By Edwin Linton, Ph. D., professor of biology, Washington and Jefferson College.

Physiology of the lateral-line organs of fishes. By George H. Parker, Ph. D., assistant professor of zoology, Harvard University.

A synopsis of the annelids of the Woods Hole region. By J. Percy Moore, Ph. D., instructor in zoology, University of Pennsylvania.

The total number of investigators who availed themselves of the privileges of the laboratory during the summer was 30, the greatest number at any one time being 20. These men represented two government departments and 16 educational institutions, ranging from

Alabama to Vermont and west to Illinois. The nature of their investigations is indicated below:

Artificial sea waters as tested in aquaria.—At the suggestion of Mr. W. de C. Ravenel, representative of the Bureau of Fisheries at the St. Louis Exposition, experiments were made, under authority of the Secretary of Agriculture and of the Commissioner of Fisheries, to determine, if possible, how far it may be practicable to make artificial sea water capable of sustaining marine plant and animal life. This work was conducted by Dr. Rodney H. True, physiologist of the Department of Agriculture, assisted by Mr. W. O. Richtman, of the Department of Agriculture, and Mr. Grant Smith, graduate student of Harvard University.

Experiments were made with artificial sea water prepared in two ways: (1) By dissolving in distilled water the complete salts of the sea, obtained by evaporation; (2) by dissolving in distilled water chemically prepared salts in proportions determined by analysis. The *Challenger* analyses by Dittmar were used. Aquaria were provided with artificial waters prepared according to each of these methods and with sea water dipped from the current at the end of the wharf at the Woods Hole station. Two sets of such aquaria were prepared: (1) Standing aquaria kept at constant salt content by the addition of fresh water; (2) aquaria through which a small stream of water was kept flowing, providing thereby a system of closed circulation.

Aquaria thus prepared were stocked with both plant and animal life, the plants most used being green forms common at Woods Hole—*Cladophora*, *Enteromorpha*, *Ulva*, and *Aghardiella tenera*. Many types of animal life were studied, including especially sea anemones (*Metridium*), starfish (*Asterias*), medusæ (*Gonionemus*), squid (*Loligo*), and fish (silversides, scup, pipe-fish, etc.). The general result may be stated as follows: Sea anemones seemed to flourish in all the media during the period under observation. Starfish survived and behaved normally in the water made from evaporated sea salt, but in some cases showed symptoms of injury in the synthetic solution. *Gonionemus* survived for several weeks in both solutions, but appeared to suffer from its contact with other forms of life in the aquaria. The squid could not be made to survive for more than a few days in any medium, artificial or natural. It died in the synthetic solution in less than ten minutes, with violent symptoms, but survived in the other artificial solution as long as in the natural sea water. Fish, including delicate forms like *Menidia*, seemed in all cases to live as well in the artificial solutions as in the natural. Several other forms of fish and invertebrates were tested in various ways, with the general result that the artificial solution made from the salt obtained by evaporation permitted survival to a degree not clearly different from that seen in sea water. The synthetic artificial solution seemed equally favorable to most forms, but distinctly less so to a few.

The edible lamellibranchs as a source of infection.—This research was conducted by Dr. George Wilton Field, of the Massachusetts State Board of Health, assisted by Dr. C. A. Fuller, and involved a study of the relations between shellfish and sewage bacteria, with experiments designed to answer the following questions: (1) Are sewage bacteria (*Bacillus coli*, the type form) normal and usual inhabitants of shellfish? (2) How soon after the introduction of *B. coli* into the water does it appear in the clam? (3) How long does *B. coli* live in ordinary sea water? (4) How long, under normal conditions, does *B. coli* remain alive and active in the intestines of shellfish? (5) Is it probable that the shellfish digest *B. coli* and thus incidentally act as purifiers of the sewage-polluted waters, and further, that by digesting *B. coli*, shellfish may, after a time become free from sewage bacteria and therefore harmless as food for man? (6) Examination to ascertain what anatomical region is most certain to give a true index to the presence of *B. coli*.

The methods used by Doctor Field and Doctor Fuller for securing proper conditions of infection with *Bacillus coli* and for maintaining the normal conditions of life for the clams proved satisfactory. The results will probably be published by the Massachusetts State Board of Health in its annual report, and are believed to be of considerable importance.

The lobster problem.—At the request of Capt. J. W. Collins, chairman of the fish and game commission of Massachusetts, Doctor Field secured, at Woods Hole and Cuttyhunk, important data concerning the lobster industry, bearing upon the biological importance of preserving the adult lobsters and permitting the catching of immature ones. Figures were obtained indicating the commercial value, in terms of edible meat, of lobsters 8.5, 9.5, and 10.5 inches long; also

the weights and measurements (length, weight, and diameters of chelæ, thorax, and abdomen) of upward of 800 newly-caught lobsters coming from different sections, and some observations were made upon the relative numbers of mature and immature lobsters in the ocean. In connection with the recommendation of a law which would insure the perpetual protection of the adult lobster, experiments were made looking toward the adoption of a pot which would exclude lobsters above 11 inches in length and permit the escape of those under 9 inches. The result of this would be the automatic regulation of lobster catching to practically only those sizes between 9 and 11 inches.

The food of marine birds.—Lynds Jones, M. S., instructor in zoology, Oberlin College. These investigations were made on Weepecket, Penikese, and Muskeget islands. Stomachs of young terns were examined, and the feeding of the young by the parent, as well as the feeding of the adult birds, was carefully noted. Mr. Jones gives the following estimate of the tern population of the various islands where they nest: Weepecket, 2,000; Penikese, 10,000; Muskeget, 80,000; total, 92,000. The two species (*Sterna hirundo* and *S. dougalli*) are represented in about the proportion of 2 to 1. The feeding habits and the food of the two are the same. The number of fishes eaten in this region by terns in the course of one day is estimated by Mr. Jones as follows: Sand launce (*Ammodytes americanus*), 736,000; chogset (*Tautogolabrus adspersus*), 73,600; mullet (*Mugil curema*), 36,800; pollock (*Pollachius virens*), 27,600; clupeid fish (*Clupea* or *Pombolobus*), 27,600, and flounder (*Pseudopleuronectes americanus*), 18,400. Mr. Jones concludes that the number of food fishes consumed by terns is a negligible quantity. The food of the gulls, loons, kingfishers, osprey, and ducks was not studied.

The bactericidal properties of sera of marine animals.—G. F. Ruediger, M. D., Memorial Institute for Infectious Diseases, Chicago (Rush Medical College). The object of this work was to find a normal blood serum in cold-blooded animals which would be destructive to streptococci. Sera from butter-fish, dogfish, conger eel, flounder, mackerel, dusky shark, sand shark, scup, squeteague, butterfly-ray, sting-ray, common skate, squid, lobster, spider crab, king crab, snapping turtle, painted turtle, and spotted turtle were used. Streptococci were found to grow well in all of these sera, excepting those of the painted turtle and spotted turtle. These two sera seemed to kill large numbers of organisms from some cultures of streptococci, other cultures, however, not being affected. Heating the serum destroyed its bactericidal properties. An attempt was also made to immunize the dog-fish, but lack of time prevented conclusive results.

A statistical study of Fundulus majalis, with a view to the determination of selective characters.—Francis Bertody Sumner, Ph. D., instructor in zoology, College of the City of New York, and director of Woods Hole Laboratory.

In addition to this work the compilation of the catalogue of the fauna and flora of the Woods Hole region, elsewhere referred to, was conducted by Doctor Sumner, with the assistance of Mr. Raymond C. Osburn, graduate student, Columbia University, and others.

The color changes of fishes.—F. C. Carlton, graduate student, Harvard University.

Experiments upon phototactic responses of star-fish.—Grant Smith, graduate student, Harvard University.

Studies of the morphology of Hydromedusæ.—Henry Farnham Perkins, Ph. D., instructor in biology, University of Vermont.

Minute structure of the rods of the retina of fishes.—Arthur D. Howard, M. S., graduate student, Harvard University.

A study of a parasite of the oyster (Bucephalus cucullus McC.).—John Y. Graham, Ph. D., professor of biology, University of Alabama.

Collection of material for histological studies.—Ulric Dahlgren, M. S., assistant professor of histology, Princeton University.

(1) *Dimorphism in Metridium marginatum.* (2) *The blood parasites of the turtle.*—Clarence W. Hahn, A. M., graduate student, Harvard University.

The effect of heredity on the dimorphism exhibited in the optic chiasma of teleosts.—Austin P. Larrabee, A. M., graduate student, Harvard University.

The reaction of eyeless fish to light.—Joseph A. Long, graduate student, Harvard University.

Comparative study of muscular tonus.—Samual Steen Maxwell, Ph. D., instructor in physiology, Harvard Medical School.

Studies on the phosphorescence of ctenophores.—Amos W. Peters, Ph. D., instructor in physiology, University of Illinois.

Studies of the gregarines.—George G. Scott, M. A., tutor in the College of the City of New York.

Phototaxis in Copepoda.—John A. Shott, A. M., professor of biology and physics, Westminster College.

(1) ***Crustacean metamorphosis.*** (2) ***Studies of the head and alimentary canal of Diptera.***—Millett T. Thompson, Ph. D., instructor in zoology, collegiate department, Clark University.

BEAUFORT LABORATORY (DR. CASWELL GRAVE, DIRECTOR).

At the beginning of the fiscal year the laboratory at Beaufort, N. C., had been open for over a month, and it was continued in operation until September 30. During July and August all of the rooms were occupied by investigators and student assistants. The facilities of the laboratory had been improved in the preceding fiscal year by the installation of a pumping plant, and during the summer of 1903 it was possible to keep living material for study in the laboratory and to maintain an instructive exhibit in the aquaria, where from 50 to 200 live animals, principally small and moderate-sized fishes, with a few species of invertebrates, were on exhibition daily. Owing to the lack of light and aeration in the large tanks, it was found impossible to maintain an exhibit of the larger species of fishes, but plans for overcoming this difficulty are now under consideration. The laboratory fleet has been augmented by the addition of a sharpie and two skiffs, and during the season of active operations consisted of the launch *Petrel*, the sharpie *Cero*, and 8 rowboats, all of which were in almost constant use. The *Petrel* and the *Cero* were employed in carrying on a biological survey of the waters in the vicinity of Beaufort and in collecting materials for the use of investigators in the laboratory. The *Petrel* was also used in experiments in oyster culture, carried on jointly by this Bureau and the North Carolina Geological Survey.

The oyster experiments and investigations in Pamlico Sound promise important economic results. Thirty plants have been made during the year, making a total of 35 plants in 13 localities now under the supervision of the laboratory. Progress has also been made in the collection of data relating to the status of private plants and in collating the experiences of those who have at various times attempted oyster culture in Pamlico Sound and vicinity, all of which have a bearing upon the feasibility of State encouragement of the industry. The biological survey contemplates the assembling of a museum, the collection of all possible information concerning the rich fauna in the vicinity of Beaufort, and the preparation of a catalogue and charts showing the local distribution of the various species, their time of occurrence, food, enemies, parasites, breeding habits, etc., as well as the economic status of those species which are utilized by man. During the season considerable progress has been made in this undertaking, and besides the collection, preservation and labeling of specimens, numerous notes have been made relating to the fishes of Beaufort and adjacent waters. In addition to many species which they do not recognize, 50 species of fish are known to the fishermen, and about 30 of these have or have had an economic value at Beaufort. Work of a similar character is being carried on with the invertebrates, and, as opportunity presents, the scope of the survey will be

extended both geographically and with reference to species. It is believed that the catalogue, as it becomes more exhaustive, will furnish information of great economic and scientific value.

During recent years there has been an increase in the importance and value of the clam as a fishery product in the vicinity of Beaufort, and in recognition of this steps have been taken toward an investigation of the natural history of the species and of the economic significance of present methods of the fisheries. In May, 1903, arrangements were made to carry on experiments in clam culture jointly with certain persons industrially engaged in the business. Sufficient time has not elapsed for the attainment of any results.

The observations on the diamond-back terrapin begun in 1902 have not been actively prosecuted, as superior opportunities have been presented elsewhere for the conduct of this work by the Bureau.

During the summer of 1903 thirteen persons at the laboratory carried on special lines of investigation, which are summarized below:

The early development of an ascidian (*Cynthia* sp.) was investigated by Prof. W. K. Brooks, of Johns Hopkins University, during two weeks in September, in order to compare certain structural characters of the eggs and larvæ and certain features in the development with corresponding stages in *Salpa*.

The study of *Phoronis architecta*, begun by Mr. R. P. Cowles, of Johns Hopkins University, two years ago, was completed, and the study of the development of a species of *Ascaris* parasitic in the toadfish, also a research on the cell lineage of *Axiotheca murosa*, a species of annelid found in the vicinity of Beaufort, were taken up.

Studies of peculiar cœlenterate larvæ, which present divergences from other larval cœlenterates already described, were conducted by Mr. L. R. Cary, of Johns Hopkins University. The specimens were taken in the tow nets, and from the small actinians developed from them it appears that the species is *Paractis rapiformis*.

The effect of X-rays on the development of the chick was studied by Mr. P. K. Gilman, with results that are expected to exert influence on certain lines of surgery.

Living eggs of *Fasciolaria tulipa* and the method of ingestion by the few fertile eggs of the large number in the same capsule which never undergo development were subjects of investigation by Dr. O. C. Glaser, of Johns Hopkins University.

Studies on the breeding habits of the pipefish were continued by Mr. E. W. Gudger, of Johns Hopkins University, the method by which the female transfers her eggs to the brood pouch of the male being especially observed. Material was preserved to serve as a basis for a study of the embryology of the species.

About 275 species of insects occurring in the vicinity of Beaufort were collected by Mr. Franklin Sherman, jr., and notes were made relating to the habits, comparative abundance, and other matters concerning 32 species. Special attention was paid to species of economic importance, viz, the harlequin, cabbage bug, chinch bug, cotton louse, cabbage louse, spotted melon beetle, striped melon beetle, spotted belidnota, herbivorous lady beetle, pine weevil, potato beetle, tortoise beetles (3 species), horseflies, (3 species), apple-tree tent-caterpillar, bean-leaf beetle, house fly, large cornstalk borer, corn-hill beetle, and blister beetle.

Collections representing 30 species of Hydromedusæ were made by Mr. Samuel Rittenhouse, of Johns Hopkins University, who also preserved material for work on the development of *Turritopsis*.

The plankton of the harbor was studied by Dr. Adolf Reichard, and materia was collected for a research on the development of *Appendicularia*.

The collection of annelids at the laboratory was rearranged, labeled, and studied by Mr. Clarence A. Shore, of Johns Hopkins University, who also made additional collections whenever the tides and weather permitted, obtaining several hitherto unrepresented species and bringing the total number up to 52.

The algæ of the region were studied by Mr. W. D. Hoyt, of the University of

Georgia, 54 species being collected. Notes on the structure, habitat, and reproduction characteristics of each were filed in the laboratory catalogue.

Fishes of the vicinity of Beaufort were collected by Mr. George T. Bean, a number of species obtained whose occurrence was before unknown, bringing the list up to 110. Records of the food, breeding habits, and economic importance were preserved.

The study of a destructive parasite of the oyster, a trematode of the genus *Gasterostomum*, was continued by Dr. D. H. Tennent, of Johns Hopkins University, who has traced the complete life history of this worm. The adult form lives in the alimentary canal of several species of Beaufort fishes.

REPORT ON STATISTICS AND METHODS OF THE FISHERIES.

By A. B. ALEXANDER, *Assistant in Charge.*

SUMMARY OF THE WORK.

The work of this division during 1904 included a statistical canvass of the salmon fisheries of Alaska for the years 1901, 1902, and 1903, and of the salmon-canning industry of Washington, Oregon, and California for the season of 1903; an investigation of the fisheries of the South Atlantic and Gulf States for 1902, including inquiries into the alligator and otter industries of the interior waters of Florida; a canvass of the New England fisheries and those of the interior waters of New York and Vermont for 1902; of the Hawaiian Islands for 1903, and of the shad and alewife fisheries of North Carolina for the season of 1904. At the close of the year an investigation of the Great Lakes fisheries was in progress, and a study of the fishery products on exhibition at the Louisiana Purchase Exposition had been undertaken. These inquiries were conducted through the regular corps of statistical field agents. Monthly returns of the quantity and value of the fish caught and landed at Boston and Gloucester, Mass., by American vessels have been submitted by local agents. The results of the various canvasses are summarized in the following pages, and a detailed report on the fisheries of the interior waters of New York and Vermont is in course of publication. In addition to the usual monthly bulletins of fishery products landed at Boston and Gloucester, the following have been issued by the division during the year:

No. 145. Statement of the quantities and values of certain fishery products landed at Boston and Gloucester, Mass., by American vessels during the year 1903.

No. 147. Fisheries of the Gulf States, 1902.

No. 149. Fisheries of the South Atlantic States, 1902.

No. 151. Fisheries of the New England States, 1902.

VESSEL FISHERIES OF BOSTON AND GLOUCESTER.

The quantity of fishery products landed at Boston and Gloucester, Mass., by American fishing vessels as their own catch in 1903 was 6,990 fares, consisting of 111,442,114 pounds of fresh fish, valued at $2,686,791, and 46,050,228 pounds of salted fish, valued at $1,743,240—a total of 157,492,342 pounds, valued at $4,430,031. From banks east of 66° west longitude there were 721 fares, amounting to 53,282,288 pounds, valued at $1,559,596, and from banks off the New England coast west of that meridian 6,269 fares, with 104,210,054 pounds, valued at $2,870,435. As compared with the

returns for 1902 there has been a decrease of 344 fares and of 10,462,533 pounds in the total quantity of fish landed, but an increase of $50,949 in the total value. The falling off in quantity is no doubt largely due to inclement weather, which, during the winter months and to some extent in the summer, frequently detained the vessels in port and also interfered with their operations while on the fishing grounds, and the consequent scarcity of fish at various times may partly account for the increase in value. In this connection, however, it is noticed that 9,650,061 pounds of the decrease was in fish from the more distant fishing grounds—east of 66° west longitude. The trips from that region were less numerous and averaged considerably smaller than in the previous year. There was also a slight falling off in the number of trips and in the quantity of products landed from banks off the New England coast, but the average size of the fares was greater.

The receipts of fish at Boston from American fishing vessels during the year was 3,818 trips, consisting of 78,383,472 pounds of fresh fish, valued at $2,001,485, and 1,883,400 pounds of salted fish, valued at $49,642; a total of 80,266,872 pounds, with a value of $2,051,127. Of this product 224 trips, amounting to 10,470,560 pounds, valued at $289,820, were from banks east of 66° west longitude, and 3,594 trips, with 69,796,312 pounds, valued at $1,761,307, were from banks off the New England coast.

The number of trips landed at Gloucester was 3,172, having 33,058,642 pounds of fresh fish, valued at $685,306, and 44,166,828 pounds of salted fish, valued at $1,693,598; a total of 77,225,470 pounds, valued at $2,378,904. From the eastern banks there were 497 trips, with 42,811,728 pounds, valued at $1,269,776, and from banks off the New England coast 2,675 trips, with 34,413,742 pounds, valued at $1,109,128.

At Boston there was a decrease of 163 trips as compared with the preceding year, but an increase of 1,292,876 pounds in the quantity and of $8,489 in the value of the fish; and at Gloucester a decrease of 181 trips and of 11,755,409 pounds in the quantity, but an increase of $42,460 in value.

Summary, by fishing grounds, of certain fishery products landed at Boston, Mass., by American fishing vessels, 1903.

Fishing grounds.	No. of trips.	Cod.				Cusk, fresh.	
		Fresh.		Salted.			
		Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:							
La Have Bank	84	920,000	$25,441			257,000	$4,051
Western Bank	33	567,000	16,005	52,000	$1,060	37,000	722
Green Bank	1						
Grand Bank	5						
St. Peters Bank	1	55,000	1,925				
Off Newfoundland	15						
Cape Shore	84	1,408,000	44,597			218,000	3,032
Greenland and Iceland	1						
Total	224	2,950,000	87,968	52,000	1,060	512,000	7,805
West of 66° W. longitude:							
Browns Bank	60	1,159,000	30,965	20,000	700	266,000	4,189
Georges Bank	660	5,488,500	156,794	7,000	245	241,900	3,927
Cashes Bank	39	291,500	8,843	14,000	420	137,000	2,066
Clark Bank	22	160,500	4,540			5,000	79
Fippenies Bank	4	50,000	1,425			4,000	60
Middle Bank	423	556,300	20,254			26,100	459
Platts Bank	1	5,000	175			2,000	30
Jeffreys Ledge	280	414,800	15,714			90,400	1,532
South Channel	552	4,524,600	132,223			158,300	2,412
Nantucket Shoals	68	813,200	21,521				
Off Highland Light	73	229,600	5,287			2,000	55
Off Chatham	89	370,300	11,070			10,500	198
Bay of Fundy	1	20,000	800				
Shore, general	1,292	4,346,050	123,232			223,900	3,701
Total	3,594	18,431,350	532,843	41,000	1,365	1,162,100	18,708
Grand total	3,818	21,381,350	620,811	93,000	2,425	1,674,100	26,508

Fishing grounds.	Haddock, fresh.		Hake, fresh.		Pollock, fresh.		Halibut.			
							Fresh.		Salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:										
La Have Bank	876,500	$20,882	372,500	$5,538	57,000	$1,126	69,050	$5,580		
Western Bank	143,500	4,450	188,000	3,563	51,510	1,158	213,200	15,114		
Green Bank							20,000	1,400		
Grand Bank							107,000	6,700		
St. Peters Bank							5,000	400		
Off Newfoundland							135,000	7,150		
Cape Shore	1,199,000	32,667	456,500	7,070	122,500	1,902	14,500	1,521		
Greenland and Iceland									180,000	$14,400
Total	2,219,000	57,999	1,017,000	16,171	231,010	4,186	563,750	37,865	180,000	14,400
West of 66° W. longitude:										
Browns Bank	1,423,000	26,200	118,000	1,966	44,500	949	34,300	2,863		
Georges Bank	11,283,800	213,152	827,300	14,960	194,200	3,892	121,820	8,011		
Cashes Bank	174,600	5,395	367,000	6,193	29,600	418	1,200	98		
Clark Bank	278,200	6,686	108,000	1,637	5,000	80	1,000	70		
Fippenies Bank	12,000	468	91,000	1,065	3,000	40	300	54		
Middle Bank	2,489,100	64,278	316,700	5,425	197,300	4,736	4,000	278		
Platts Bank	1,500	45	23,000	230	1,000	10				
Jeffreys Ledge	854,050	27,285	763,500	11,453	498,400	7,700	2,800	354		
South Channel	9,392,300	255,410	4,321,500	65,027	115,900	2,058	25,700	2,824		
Nantucket Shoals	290,000	7,186	36,400	616	53,100	629	200	16		
Off Highland Light	815,800	21,472	62,800	1,204	26,900	715	3,800	430		
Off Chatham	1,201,600	32,922	179,400	3,625	47,400	1,616	2,900	388		
Bay of Fundy			4,000	120			13,000	1,300		
Shore, general	6,781,250	133,025	1,387,150	28,567	1,861,200	28,666	67,185	3,211		
Total	34,997,200	793,504	8,600,750	142,088	3,077,500	51,509	278,205	19,897		
Grand total	37,216,200	851,503	9,617,750	158,259	3,308,510	55,695	841,955	57,762	180,000	14,400

Summary, by fishing grounds, of certain fishery products landed at Boston, Mass., by American fishing vessels, 1903—Continued.

Fishing grounds.	Mackerel.				Other fish.			
	Fresh.		Salted.		Fresh.		Salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:								
La Have Bank					600	$36		
Off Newfoundland					963,000	23,040	1,424,000	$20,300
Cape Shore	192,000	$10,435	145,200	$8,475	1,000	80		
Total	192,000	10,435	145,200	8,475	964,600	23,156	1,424,000	20,300
West of 66° W. longitude:								
Georges Bank					1,244,073	92,922		
Middle Bank	358,260	15,969			4,800	564		
Jeffreys Ledge	9,810	882			14,966	1,443		
South Channel	5,600	396			4,600	531		
Shore, general	899,183	64,866	41,200	4,042	630,725	19,788		
Total	1,267,843	82,113	41,200	4,042	1,899,164	115,243		
Grand total	1,459,843	92,548	186,400	12,517	2,883,764	138,399	1,424,000	20,300

Fishing grounds.	Total.				Grand total.	
	Fresh.		Salted.			
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:						
La Have Bank	2,552,650	$62,654			2,552,650	$62,654
Western Bank	1,200,210	41,012	52,000	$1,060	1,252,210	42,072
Green Bank	20,000	1,400			20,000	1,400
Grand Bank	107,000	6,700			107,000	6,700
St. Peters Bank	60,000	2,325			60,000	2,325
Off Newfoundland	1,118,000	30,190	1,424,000	20,300	2,542,000	50,490
Cape Shore	3,611,500	101,304	145,200	8,475	3,756,700	109,779
Greenland and Iceland			180,000	14,400	180,000	14,400
Total	8,669,360	245,585	1,801,200	44,235	10,470,560	289,820
West of 66° W. longitude:						
Browns Bank	3,044,800	67,132	20,000	700	3,064,800	67,832
Georges Bank	19,401,593	493,658	7,000	245	19,408,593	493,903
Cashes Bank	1,000,900	23,013	14,000	420	1,014,900	23,433
Clark Bank	552,700	13,092			552,700	13,092
Fippenies Bank	160,300	3,112			160,300	3,112
Middle Bank	3,949,560	111,963			3,949,560	111,963
Platts Bank	32,500	490			32,500	490
Jeffreys Ledge	2,648,716	66,343			2,648,716	66,343
South Channel	18,543,500	460,881			18,543,500	460,881
Nantucket Shoals	1,192,900	29,968			1,192,900	29,968
Off Highland Light	1,140,900	29,163			1,140,900	29,163
Off Chatham	1,812,100	49,814			1,812,100	49,814
Bay of Fundy	37,000	2,220			37,000	2,220
Shore, general	16,196,643	405,051	41,200	4,042	16,237,843	409,093
Total	69,714,112	1,755,900	82,200	5,407	69,796,312	1,761,307
Grand total	78,383,472	2,001,485	1,883,400	49,642	80,266,872	2,051,127

Summary, by fishing grounds, of certain fishery products landed at Gloucester, Mass., by American fishing vessels, 1903.

Fishing grounds.	No. of trips.	Cod.				Cusk.			
		Fresh.		Salted.		Fresh.		Salted.	
		Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:									
La Have Bank	125	2,967,297	$61,963	441,141	$17,312	612,796	$8,618	10,000	$250
Western Bank	34	540,465	12,324	500,400	18,992	43,000	622	4,000	130
Quereau Bank	78	1,352,484	25,006	3,459,579	111,104	35,700	497	22,000	660
Green Bank	9	10,000	200	89,400	3,473				
Grand Bank	89	11,000	190	11,756,525	395,744				
Bacalieu Bank	20	5,000	113	54,455	2,302	2,000	26		
Off Newfoundland	57	46,000	1,035	974,380	35,387				
Cape North	1	98,000	1,722			4,000	52		
Cape Shore	71	876,280	6,447	158,900	5,970	160,300	2,102		
Gulf of St. Lawrence	13	50,000	1,060	150,642	5,541			3,784	123
Total	497	5,456,526	110,060	17,585,872	595,825	857,796	11,917	39,784	1,163
West of 66° W. longitude:									
Browns Bank	31	719,697	13,282	74,050	2,807	170,546	2,217		
Georges Bank	448	1,058,495	22,768	9,321,711	356,248	29,870	530	38,740	1,166
Cashes Bank	17	212,805	5,513			69,480	955		
German Bank	1			55,000	2,325				
Jeffreys Ledge	1	13,000	433						
Ipswich Bay	512	304,086	6,091						
South Channel	16	61,200	2,270			12,420	199		
Off Chatham	2								
Bay of Fundy	40	120,986	2,562			65,745	870		
Shore, general	1,607	1,229,070	31,040	166,000	2,445	1,000	16		
Total	2,675	3,719,339	83,909	9,516,761	363,825	349,061	4,787	38,740	1,166
Grand total	3,172	9,175,865	193,969	27,102,133	959,650	1,206,857	16,704	78,524	2,329

Fishing grounds.	Haddock.				Hake.			
	Fresh.		Salted.		Fresh.		Salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:								
La Have Bank	1,082,965	$15,210			2,630,430	$25,998	10,000	$268
Western Bank	145,000	2,268			220,300	1,964	4,000	90
Quereau Bank	18,000	149			95,500	1,088	31,000	790
Green Bank							4,000	90
Grand Bank					5,000	65	4,000	110
Bacalieu Bank					8,000	88		
Cape North					20,000	160		
Cape Shore	118,425	1,556			96,000	1,043		
Total	1,314,390	19,183			3,075,230	30,406	53,000	1,348
West of 66° W. longitude:								
Browns Bank	287,220	2,565			247,060	2,050		
Georges Bank	1,264,365	18,688	4,000	$90	63,810	848	25,510	531
Cashes Bank	46,120	1,021			531,213	4,837		
Jeffreys Ledge	3,150	102			6,150	77		
Ipswich Bay	150	2						
South Channel	96,430	2,335			176,000	1,947		
Bay of Fundy	2,000	16			988,480	10,526		
Shore, general	158,827	4,214			63,040	739		
Total	1,808,262	28,943	4,000	90	2,075,753	21,024	25,510	531
Grand total	3,122,652	48,126	4,000	90	5,150,983	51,430	78,510	1,874

Summary, by fishing grounds, of certain fishery products landed at Gloucester, Mass., by American fishing vessels, 1903—Continued.

Fishing grounds.	Pollock.				Halibut.			
	Fresh.		Salted.		Fresh.		Salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:								
La Have Bank	23,500	$179	5,000	$113	95,626	$7,386	16,000	$1,000
Western Bank			7,000	158	111,265	9,652	8,000	420
Quereau Bank	3,000	18	20,905	1,846	438,629	40,946	3,000	203
Green Bank					180,707	15,223		
Grand Bank					654,835	48,383	24,000	1,581
Bacalieu Bank					461,960	25,108	568,600	43,115
Off Newfoundland					140,524	10,678	24,540	1,241
Cape North	6,500	39						
Cape Shore					1,000	96		
Gulf of St. Lawrence					161,454	9,602	7,840	412
Total	33,000	236	32,905	2,117	2,246,000	167,074	651,980	47,922
West of 66° W. longitude:								
Browns Bank	2,230	10			15,689	1,498		
Georges Bank	2,800	40	100,835	2,105	518,046	39,765		
Ipswich Bay	5,393,000	39,563						
Off Chatham	158,000	632						
Bay of Fundy	7,000	49						
Shore, general	2,385,530	19,112	20,000	250				
Total	7,948,560	59,396	120,835	2,355	533,685	41,263		
Grand total	7,981,560	59,632	153,740	4,472	2,779,685	208,337	651,980	47,922

Fishing grounds.	Mackerel.				Other fish.			
	Fresh.		Salted.		Fresh.		Salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:								
La Have Bank					1,675	$144		
Western Bank							600	$33
Quereau Bank					4,870	485		
Bacalieu Bank					1,700	157		
Off Newfoundland					2,114,200	55,272	6,462,600	97,918
Cape Shore	60,300	$3,469	1,819,800	$108,241				
Gulf of St. Lawrence			50,000	4,188			950,000	17,623
Total	60,300	3,469	1,869,800	107,429	2,122,445	56,058	7,413,200	115,574
West of 66° W. longitude:								
Georges Bank			878,241	64,041	2,985	254		
Ipswich Bay	14,760	1,206			31,500	114	683,200	9,336
Bay of Fundy	50,400	2,080	451,600	32,340				
Shore, general	455,130	31,433	4,645,900	345,905	903,520	12,494	156,000	2,627
Total	520,290	34,719	5,975,741	442,295	938,005	12,862	839,200	11,963
Grand total	580,590	38,188	7,845,541	549,724	3,060,450	68,920	8,252,400	127,537

Fishing grounds.	Total.				Grand total.	
	Fresh.		Salted.			
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude:						
La Have Bank	7,364,289	$119,498	482,141	$18,938	7,846,430	$138,436
Western Bank	1,060,030	26,830	524,000	19,823	1,584,030	46,653
Quereau Bank	1,948,183	68,189	3,536,484	114,603	5,484,667	182,792
Green Bank	190,707	15,423	93,400	3,563	284,107	18,986
Grand Bank	670,835	48,638	11,784,525	397,385	12,455,360	446,023
Bacalieu Bank	478,660	25,492	623,055	45,417	1,101,715	70,909
Off Newfoundland	2,300,724	66,985	7,461,470	134,546	9,762,194	201,531
Cape North	128,500	1,973			128,500	1,973

Summary, by fishing grounds, of certain fishery products landed at Gloucester, Mass., by American fishing vessels, 1903—Continued.

Fishing grounds.	Total.				Grand total.	
	Fresh.		Salted.			
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
East of 66° W. longitude—Continued.						
Cape Shore	812,305	$14,713	1,978,700	$109,211	2,791,005	$123,924
Gulf of St. Lawrence	211,454	10,662	1,162,266	27,887	1,373,720	38,549
Total	15,165,687	398,403	27,646,041	871,373	42,811,728	1,269,776
West of 66° W. longitude:						
Browns Bank	1,392,392	21,572	74,050	2,807	1,466,442	24,379
Georges Bank	2,940,371	82,893	10,369,037	424,181	13,309,408	507,074
Cashes Bank	859,618	12,326			859,618	12,326
German Bank			55,000	2,325	55,000	2,325
Jeffreys Ledge	22,300	612			22,300	612
Ipswich Bay	5,743,496	46,966	683,200	9,336	6,426,696	56,302
South Channel	346,050	6,751			346,050	6,751
Off Chatham	158,000	632			158,000	632
Bay of Fundy	1,234,611	16,103	451,600	32,349	1,686,211	48,452
Shore, general	5,196,117	99,048	4,887,900	351,227	10,084,017	450,275
Total	17,892,955	286,903	16,520,787	822,225	34,413,742	1,109,128
Grand total	33,058,642	685,306	44,166,828	1,693,598	77,225,470	2,378,904

Statement, by months, of quantities and values of certain fishery products landed at Boston and Gloucester, Mass., by American fishing vessels during the year 1903.

Months.	Number of trips.	Cod.				Cusk.			
		Fresh.		Salted.		Fresh.		Salted.	
		Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
January	292	1,437,200	$45,421			42,400	$902		
February	352	1,023,300	38,686			29,300	971		
March	321	2,836,800	61,987			178,200	2,855		
April	398	2,066,400	58,312			226,000	3,576		
May	235	2,062,000	38,435	14,000	$420	230,000	3,291		
June	184	1,224,400	50,013	52,000	1,060	99,500	1,707		
July	321	1,802,600	56,814			90,500	1,206		
August	330	2,084,050	54,861	27,000	945	36,400	591		
September	325	2,968,100	67,048			246,300	3,845		
October	279	1,636,500	59,700			126,600	2,174		
November	451	1,352,900	54,894			254,900	3,492		
December	331	887,100	34,640			114,000	1,898		
Total landed at Boston	3,818	21,381,350	620,811	93,000	2,425	1,674,100	26,508		
January	180	212,500	6,513	772,640	30,995	8,000	112		
February	144	163,190	5,716	181,143	5,234				
March	359	816,425	17,063	491,505	20,053	4,000	52	6,840	$171
April	368	1,962,512	35,451	1,332,959	45,888	56,535	880	7,000	228
May	266	1,720,212	31,861	2,036,973	74,682	353,907	4,502	18,924	616
June	190	648,577	12,412	2,347,375	76,525	177,175	2,293	9,760	274
July	298	565,225	10,549	7,512,139	224,343	64,540	839	12,000	315
August	168	656,120	12,286	1,680,798	65,232	133,430	1,835		
September	170	915,863	19,386	1,574,479	62,892	171,840	2,564		
October	446	417,746	10,765	2,538,657	98,165	126,245	1,898		
November	438	820,865	22,671	6,118,821	231,981	100,185	1,603	22,000	660
December	145	257,180	9,316	564,644	23,660	11,000	176	2,000	65
Total landed at Gloucester	3,172	9,175,865	193,969	27,102,133	959,650	1,206,857	16,704	78,524	2,329
Grand total	6,990	30,557,215	814,780	27,195,133	962,075	2,880,957	43,212	78,524	2,329
Grounds E. of 66° W. long	721	8,406,526	198,028	17,637,372	596,885	1,869,796	19,722	39,784	1,163
Grounds W. of 66° W. long	6,269	22,150,689	616,752	9,557,761	365,190	1,511,161	23,490	38,740	1,166
Landed at Boston in 1902	3,981	23,283,900	571,415	10,000	200	1,128,965	18,272		
Landed at Gloucester in 1902	3,353	18,139,416	223,899	30,288,261	864,952	660,540	6,712	21,000	431

Statement, by months, of quantities and values of certain fishery products landed at Boston and Gloucester, Mass., by American fishing vessels during the year 1903—Continued.

Months.	Haddock.				Hake.			
	Fresh.		Salted.		Fresh.		Salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
January	3,131,950	$92,203	.....	.....	308,550	$10,534	.....	.....
February	4,656,800	102,367	.....	.....	221,400	9,192	.....	.....
March	8,659,300	113,973	.....	.....	461,300	10,470	.....	.....
April	3,747,600	76,238	.....	.....	109,600	1,899	.....	.....
May	1,486,500	29,989	.....	.....	316,900	4,143	.....	.....
June	1,236,100	49,847	.....	.....	574,800	13,006	.....	.....
July	2,073,550	43,730	.....	.....	628,800	9,752	.....	.....
August	1,971,550	57,702	.....	.....	875,800	13,247	.....	.....
September	3,410,600	61,469	.....	.....	1,142,600	18,824	.....	.....
October	2,495,900	68,676	.....	.....	1,447,000	23,024	.....	.....
November	2,611,200	90,325	.....	.....	2,646,800	30,588	.....	.....
December	1,735,150	64,984	.....	.....	895,200	13,580	.....	.....
Total landed at Boston	37,216,200	851,503	.....	.....	9,617,750	158,259	.....	.....
January	187,400	5,373	.....	.....	12,860	188	.....	.....
February	471,805	11,243	.....	.....	10,000	150	.....	.....
March	1,070,520	10,536	.....	.....	8,500	118	.....	.....
April	579,172	5,207	.....	.....	80,270	752	.....	.....
May	201,630	1,667	.....	.....	409,100	3,274	.....	.....
June	22,220	248	.....	.....	1,181,958	9,691	5,000	$63
July	65,000	543	.....	.....	674,000	5,713	.....	.....
August	42,000	269	4,000	$90	275,680	2,393	2,500	56
September	56,465	517	.....	.....	945,100	10,489	25,510	586
October	19,710	450	.....	.....	986,840	12,172	.....	.....
November	204,430	4,953	.....	.....	505,280	5,755	34,000	873
December	202,800	7,120	.....	.....	61,400	735	11,500	296
Total landed at Gloucester	3,122,652	48,126	4,000	90	5,150,983	51,430	78,510	1,874
Grand total	40,338,852	899,629	4,000	90	14,768,733	209,689	78,510	1,874
Grounds E. of 66° W. long	3,533,390	77,182	.....	.....	4,092,230	46,577	53,000	1,343
Grounds W. of 66° W. long	36,805,462	822,447	4,000	90	10,676,503	163,112	25,510	531
Landed at Boston in 1902	34,138,850	781,099	.....	.....	8,223,850	141,604	.....	.....
Landed at Gloucester in 1902	4,256,464	57,464	2,000	40	6,089,672	64,962	134,000	2,392

Months.	Pollock.				Halibut.			
	Fresh.		Salted.		Fresh.		Salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
January	228,900	$4,728	.....	.....	25,050	$2,855	.....	.....
February	99,400	3,928	.....	.....	82,820	6,489	.....	.....
March	87,700	2,375	.....	.....	187,800	8,356	.....	.....
April	48,600	1,025	.....	.....	50,950	4,994	.....	.....
May	98,200	1,028	.....	.....	38,800	2,475	.....	.....
June	58,010	1,319	.....	.....	81,085	7,029	.....	.....
July	146,600	2,897	.....	.....	132,100	8,236	.....	.....
August	155,100	2,469	.....	.....	140,000	7,318	.....	.....
September	245,600	4,159	.....	.....	27,300	2,585	180,000	$14,400
October	578,600	9,756	.....	.....	39,000	3,084	.....	.....
November	1,122,100	13,064	.....	.....	20,550	2,406	.....	.....
December	444,700	8,947	.....	.....	16,500	1,935	.....	.....
Total landed at Boston	3,308,510	55,695	.....	.....	841,955	57,762	180,000	14,400
January	180,220	1,775	52,075	$1,173	155,775	17,804	.....	.....
February	.....	.....	1,000	13	325,365	27,297	3,500	175
March	.....	.....	6,860	86	250,533	20,132	3,000	180
April	.....	.....	.....	.....	154,512	16,065	.....	.....
May	588,800	2,423	20,000	250	402,086	23,283	7,235	362
June	129,230	644	.....	.....	276,965	24,393	25,145	1,291
July	15,000	90	.....	.....	403,430	24,084	.....	.....
August	6,000	36	6,000	75	287,681	15,996	.....	.....
September	46,000	460	11,000	220	300,826	17,534	8,000	420
October	2,758,000	20,913	19,905	1,823	66,390	6,088	583,600	44,128

Statement, by months, of quantities and values of certain fishery products landed at Boston and Gloucester, Mass., by American fishing vessels during the year 1903—Continued.

Months.	Pollock.				Halibut.			
	Fresh.		Salted.		Fresh.		Salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
November	4,104,160	$80,783	6,000	$136	101,236	$9,710	19,000	$1,203
December	154,210	2,508	30,900	696	54,886	6,006	2,500	163
Total landed at Gloucester	7,961,560	59,632	153,740	4,472	2,779,685	208,337	651,980	47,922
Grand total	11,290,070	115,327	153,740	4,472	3,621,640	266,099	831,980	62,322
Grounds E. of 66° W. long	264,010	4,422	32,905	2,117	2,809,750	204,939	831,980	62,322
Grounds W. of 66° W. long	11,026,060	110,905	120,835	2,355	811,890	61,160	.....	.....
Landed at Boston in 1902	2,376,868	49,381	.....	.....	2,258,820	153,929	.....	.....
Landed at Gloucester in 1902	9,202,725	69,156	16,000	215	4,067,867	283,358	752,740	51,437

Months.	Mackerel.				Other fish.[a]			
	Fresh.		Salted.		Fresh.		Salted.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
January	.....	.....	.....	.....	253,000	$6,590	740,000	$10,100
February	.....	.....	.....	.....	300,000	5,700	.....	.....
March	.....	.....	.....	.....	230,000	5,750	.....	.....
April	.....	.....	.....	.....	200,000	5,000	.....	.....
May	.....	.....	.....	.....	.....	.....	.....	.....
June	390,788	$24,541	145,800	$8,517	.....	.....	.....	.....
July	419,915	17,076	.....	.....	514,098	38,633	.....	.....
August	464,760	36,799	.....	.....	657,266	44,413	.....	.....
September	171,420	13,078	40,600	4,000	196,650	20,775	.....	.....
October	12,960	1,064	.....	.....	2,000	360	.....	.....
November	.....	.....	.....	.....	8,250	158	.....	.....
December	.....	.....	.....	.....	522,500	11,025	684,000	10,200
Total landed at Boston	1,459,843	92,548	186,400	12,517	2,883,764	138,399	1,424,600	20,300
January	.....	.....	.....	.....	1,224,000	35,800	2,436,000	32,519
February	.....	.....	.....	.....	143,200	4,262	31,600	434
March	.....	.....	.....	.....	262,800	8,870	55,000	757
April	.....	.....	.....	.....	286,200	2,490	329,000	4,935
May	14,400	960	19,200	1,806	.....	.....	.....	.....
June	166,500	10,692	2,087,300	116,749	.....	.....	.....	.....
July	110,520	6,455	1,463,841	105,709	23,400	145	26,000	175
August	209,700	12,295	2,364,600	175,680	97,665	659	600	33
September	11,070	992	1,811,400	138,194	23,615	1,357	.....	.....
October	44,640	4,632	.....	.....	799,630	11,282	291,000	4,821
November	23,760	2,172	149,200	11,586	1,940	205	2,108,400	35,697
December	.....	.....	.....	.....	198,000	3,850	2,972,800	48,166
Total landed at Gloucester	580,590	38,188	7,845,541	549,724	3,060,450	68,920	8,252,400	127,537
Grand total	2,040,433	130,736	8,031,941	562,241	5,944,214	207,319	9,676,400	147,837
Grounds E. of 66° W. long	252,300	13,904	2,015,000	115,904	3,107,045	79,214	8,837,200	135,874
Grounds W. of 66° W. long	1,788,133	116,832	6,016,941	446,337	2,837,169	128,105	839,200	11,963
Landed at Boston in 1902	2,095,998	140,797	645,400	37,560	3,156,350	137,751	710,000	10,680
Landed at Gloucester in 1902	676,170	39,304	7,493,600	463,910	1,572,024	42,831	10,708,400	165,891

[a] Includes herring from Newfoundland, 3,097,200 pounds frozen, $78,312, and 7,886,600 pounds salted, $118,218.

Statement, by months, of quantities and values of certain fishery products landed at Boston and Gloucester, Mass., by American fishing vessels during the year 1903—Continued.

Months.	Total.				Grand total.	
	Fresh.		Salted.			
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
January	5,422,050	$163,233	740,000	$10,100	6,162,050	$173,333
February	6,413,020	167,333	.....	.....	6,413,020	167,333
March	12,641,100	205,766	.....	.....	12,641,100	205,766
April	6,449,150	151,044	.....	.....	6,449,150	151,044
May	4,232,400	79,361	14,000	420	4,246,400	79,781
June	3,664,683	147,462	197,800	9,577	3,862,483	157,039
July	5,808,163	178,344	.....	.....	5,808,163	178,344
August	6,384,926	217,400	27,000	945	6,411,926	218,345
September	8,408,570	191,783	220,600	18,400	8,629,170	210,183
October	6,338,560	167,828	.....	.....	6,338,560	167,828
November	8,015,700	194,922	.....	.....	8,015,700	194,922
December	4,605,150	137,009	684,000	10,200	5,289,150	147,209
Total landed at Boston	78,383,472	2,001,485	1,883,400	49,642	80,266,872	2,051,127
January	1,980,755	67,565	3,260,715	64,687	5,241,470	132,252
February	1,113,560	48,668	167,243	5,856	1,280,803	54,524
March	2,412,778	56,771	563,205	21,247	2,975,983	78,018
April	3,139,201	60,795	1,668,959	51,051	4,808,160	111,846
May	3,690,135	67,970	2,102,332	77,716	5,792,467	145,686
June	2,602,620	60,373	4,424,580	194,902	7,027,200	255,275
July	1,921,115	48,418	9,015,980	330,542	10,937,095	378,960
August	1,708,276	45,749	4,058,498	241,166	5,766,774	286,915
September	2,470,279	53,289	3,430,389	202,312	5,900,668	255,601
October	5,219,201	68,145	3,433,162	148,987	8,652,363	217,082
November	5,861,796	77,852	8,457,421	282,136	14,319,217	359,988
December	988,926	29,711	3,584,344	73,046	4,573,270	102,757
Total landed at Gloucester	33,058,642	685,306	44,166,828	1,693,598	77,225,470	2,378,904
Grand total	111,442,114	2,686,791	46,050,228	1,743,240	157,492,342	4,430,031
Grounds E. of 66° W. long	23,885,047	643,988	29,447,241	915,608	53,282,288	1,559,596
Grounds W. of 66° W. long	87,607,067	2,042,803	16,602,987	827,632	104,210,054	2,870,435
Landed at Boston in 1902	77,608,596	1,994,198	1,365,400	48,440	78,973,996	2,042,638
Landed at Gloucester in 1902	39,614,878	787,676	49,366,001	1,548,768	88,980,879	2,336,444

FISHERIES OF THE NEW ENGLAND STATES.

The number of persons employed in the coast fisheries of the New England States in 1902 was 38,879. Of these, 23,661 were fishermen and transporters and 15,218 were engaged as shoresmen in the wholesale fishery trade and in the preparation of fishery products.

The capital invested in the fisheries amounted to $19,969,031. The investment included 1,479 vessels engaged in fishing and transporting fishery products, the value of which was $3,977,066. The net tonnage was 46,543 tons and the value of the outfit was $1,792,990. The number of boats in the shore fisheries was 11,021, valued at $682,584. The fishing apparatus employed in the vessel and shore fisheries had a value of $1,305,779. The value of shore and accessory property was $7,925,887, and the cash capital employed in operating sardine canneries, menhaden factories, in the preparation of fishery products, and in the wholesale fishery trade was $4,284,725.

The quantity of products derived from the fisheries was 528,943,797 pounds, valued at $12,280,401 as they leave the hands of the fishermen; this does not include the enhancement in value as the result of

canning or other methods of preparation beyond those employed by the fishermen, nor the higher price received for products handled in the wholesale fishery trade. The leading species in the New England fisheries are alewives, cod, cusk, eels, flounders, haddock, hake, pollock, halibut, herring, mackerel, menhaden, scup, shad, smelt, squeteague, swordfish, whiting or silver hake, squid, lobsters, quahogs or hard clams, soft clams, and oysters. The products of the whale fisheries are also of considerable importance.

Since 1898, the year for which the last previous canvass of these States was made, there has been an increase in the products of the fisheries of 34.43 per cent in quantity and of 26.83 per cent in value. There has also been a small increase in the number of persons employed and in the amount of capital invested.

An interesting occurrence in connection with the New England fisheries during the past year, 1903, was the shipment from Provincetown, Mass., of a cargo of 286,000 pounds of frozen squid, out of cold storage, to St. Pierre and Miquelon, for use as bait by the French fishermen in the Grand Bank cod fisheries. The vessel carrying this cargo was the steamer *Alice M. Jacobs*, of Gloucester, Mass., commanded by Capt. Solomon Jacobs, of that port. The voyage was successfully made, and the fish met with a ready sale on reaching St. Pierre. The Gloucester Daily Times, of March 25, 1903, refers to the incident as follows:

> After loading the squid at Provincetown, the steamer sailed from there two weeks ago Wednesday and reached St. Pierre the following Saturday. To avoid the ice, Captain Jacobs went to the southward of Sable Island, and St. Pierre bore 130 miles north-northeast before he shaped his course for it.
>
> On reaching that port he had no trouble in disposing of his cargo, the French bankers coming alongside and taking their baiting, although they had not yet fitted out. All were disposed of in this way except 20,000 pounds, which were put in cold storage, as Captain Jacobs was anxious to get away and home to fit for seining.
>
> Captain Jacobs says the fishermen were pleased with the squid and wanted him to return in about three weeks with a cargo of herring, for which they were willing to pay a big price.

FISHERIES OF THE SOUTH ATLANTIC STATES.

In the South Atlantic States, namely, North Carolina, South Carolina, Georgia, and the east coast of Florida, the number of persons engaged in the coast fisheries in 1902 was 23,452. There were 17,711 fishermen on vessels and boats, and 5,741 shoresmen employed in the various branches of industry dependent on the fisheries.

The total amount of capital invested was $2,991,149; the number of vessels employed was 526, valued at $392,661; the value of their outfit was $85,095, and their net tonnage was 5,740 tons; the number of boats engaged in the shore fisheries was 9,714, valued at $349,770; the value of the fishing apparatus used on vessels and boats was $691,728, of shore and accessory property $833,395, and the amount of cash capital utilized in the wholesale fishery trade was $638,500. The principal forms of fishing apparatus were seines, gill nets, pound nets, oyster dredges, and tongs.

The products of the fisheries aggregated 106,446,072 pounds, having a value to the fishermen of $2,839,633. The more abundant species were alewives, catfish, croakers, menhaden, mullet, shad, Spanish mackerel, squeteague, striped bass, hard clams, oysters, and

shrimp. Black bass, blue fish, and many other species are also taken in large quantities.

The increase in the fisheries of this section in 1902 as compared with the returns for 1897 was 36.46 per cent in the number of persons employed, 63.55 per cent in the capital invested, and 54.90 per cent in the value of the products. There was also a large increase in all important respects as far as shown by statistics available for earlier years.

FISHERIES OF THE GULF STATES.

The coast fisheries of the States bordering the Gulf of Mexico gave employment in 1902 to 18,029 persons, of whom 12,901 were engaged as fishermen in the vessel and shore fisheries, including the crews of vessels engaged in transporting fishery products, and 5,128 as shoresmen in connection with the fisheries and wholesale fishery trade.

The amount of capital invested was $4,707,460. This included 714 fishing and transporting vessels, with a net tonnage of 9,221 tons, valued with their outfits at $1,295,845; 7,102 boats in the shore fisheries, valued at $707,129; fishing apparatus used on vessels and boats, having a value of $198,414; shore and accessory property, valued at $1,586,672, and cash capital utilized in the wholesale fishery trade, amounting to $919,400. The more important forms of apparatus of capture were seines, gill nets, trammel nets, stop nets, lines, oyster dredges and tongs. The stop net, it may be explained, is a long piece of netting stretched across a stream or creek to prevent the fish that have entered from escaping when the tide recedes.

The yield of the fisheries in 1902 was 113,696,970 pounds of products, with a value to the fishermen of $3,494,196. The species secured in largest quantities were buffalo-fish, catfish, channel bass or redfish, red snappers, groupers, mullet, sheepshead, Spanish mackerel, trout or squeteague, hard crabs, oysters, and shrimp.

Since 1897, the year for which they were last canvassed, the fisheries of the Gulf States have increased 29.08 per cent in the number of persons employed, 82.17 per cent in the amount of capital invested, 73.95 per cent in the quantity, and 53.81 per cent in the value of the products. The species in which the largest increase in yield has occurred are buffalo-fish, mullet, red snappers, groupers, oysters, and shrimp.

FISHERIES OF THE INTERIOR WATERS OF FLORIDA.

For many years an important alligator and otter industry has been prosecuted in what is generally known as the Kissimmee and Apopka regions of Florida. During the last few years the catching of fish has also been taken up in this section, and it was decided to investigate these fisheries while canvassing the coastal waters of the State. Lakes Apopka, Harris, Griffin, Eustis, Dora, Tohopekaliga, Kissimmee, Cypress, and Hacheneha, and the Kissimmee River were visited, and the tables following show the extent of the industry for 1902. As a number of the lakes are connected with each other by short rivers, and the fishermen move from one to the other frequently, it is impossible in every case to show separately the fisheries of each lake.

Fishing first began in the Kissimmee region in 1900, and has attained considerable importance. During October, November, and

December seines are used; trot lines are operated during the rest of the year. The town of Kissimmee is the shipping point for the fishermen of this region. The same method is followed in Lake Apopka, Winter Garden and Oakland being the fishing centers. In lakes Harris, Griffin, Eustis, and Dora trot lines only are employed.

Alligators are hunted with guns, and otters are taken in traps in the Kissimmee region, the same persons generally prosecuting both industries. The hides and skins are brought to the nearest railroad towns and exchanged with the merchants for supplies.

Yield, by species, of the fisheries of the interior waters of Florida in 1902.

Species.	Lakes Harris, Griffin, Eustis, and Dora.		Lakes Tohopekaliga, Kissimmee, Cypress, and Hatchenelia, and Kissimmee River.		Lake Apopka.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Black bass			4,940	$247	15,800	$277	20,740	$524
Bream					19,100	334	19,100	334
Catfish	225,000	$4,500	160,800	7,030	390,000	6,825	775,600	18,355
Crappie			13,000	380			13,000	380
Pike			1,000	50			1,000	50
Alligator hides			11,752	2,350			11,752	2,350
Otter skins			2,592	9,720			2,592	9,720
Total	225,000	4,500	193,884	19,777	424,900	7,426	843,784	31,713

Yield of the fisheries of the interior waters of Florida in 1902, shown by apparatus and species.

Apparatus and species.	Lakes Harris, Griffin, Eustis, and Dora.		Lakes Tohopekaliga, Kissimmee, Cypress, and Hatchenelia, and Kissimmee River.		Lake Apopka.		Total.	
	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.	Lbs.	Value.
Seines:								
Black bass			2,200	$110	11,500	$202	13,700	$313
Bream					17,100	299	17,100	299
Catfish			82,800	3,140	350,000	6,125	432,800	9,265
Crappie			6,600	198			6,600	198
Pike			1,000	50			1,000	50
Total			92,600	3,498	378,600	6,626	471,200	10,124
Hand lines:								
Black bass			2,740	137			2,740	137
Catfish			2,000	100			2,000	100
Crappie			6,400	182			6,400	182
Total			11,140	419			11,140	419
Trot lines:								
Black bass					4,300	75	4,300	75
Bream					2,000	35	2,000	35
Catfish	225,000	$4,500	75,800	3,790	40,000	700	340,800	8,990
Total	225,000	4,500	75,800	3,790	46,300	810	347,100	9,100
Guns:								
Alligator hides			11,752	2,350			11,752	2,350
Otter traps:								
Otter skins			2,592	9,720			2,592	9,720
Grand total	225,000	4,500	193,884	19,777	424,900	7,436	843,784	31,713

Number of persons employed in the fisheries of the interior waters of Florida in 1902.

Waters.	Fishermen.	Shoremen.	Total.
Lakes Harris, Griffin, Eustis, and Dora	80		80
Lakes Tohopekaliga, Kissimmee, Cypress, and Hatcheneha, and Kissimmee River	172	4	176
Lake Apopka	79	10	89
Total	281	14	295

Boats, apparatus, and shore property employed in the fisheries of the interior waters of Florida in 1902.

Items.	Lakes Harris, Griffin, Eustis, and Dora.		Lakes Tohopekaliga, Kissimmee, Cypress, and Hatcheneha, and Kissimmee River.		Lake Apopka.		Total.	
	No.	Value.	No.	Value.	No.	Value.	No.	Value.
Boats	30	$300	152	$2,840	56	$1,120	238	$4,260
Apparatus:								
Seines			20	1,800	23	3,450	[a]43	5,250
Hand lines			8				8	
Trot lines.....yds.	30,000	250	5,250	54	3,500	35	38,750	339
Guns			112	2,240			112	2,240
Otter traps			930	605			930	605
Shore and accessory property		450		300		450		1,200
Total		1,000		7,847		5,055		13,902

[a] Total length of seines, 20,500 yards.

FISHERIES OF THE HAWAIIAN ISLANDS.

The commercial fisheries of the Hawaiian Islands were investigated in the early part of 1904, all of the larger inhabited islands being visited and the work continuing for about two months. The purpose of the canvass was to collect statistics for the year 1903, and also to note any changes that might have occurred in the methods or otherwise in connection with the fisheries since the first investigation in 1900. There were 2,345 persons engaged in the industry in 1900, while in 1903 there were 3,241, a gain of 896; a large percentage of these was Japanese, whose numbers have increased from 485 to 1,571 during that interval. In 1900 the total investment amounted to $272,591, while in 1903 it was $309,217, a gain of $36,626. The total catch in 1900 was 6,222,455 pounds, valued at $1,083,646, while in 1903 it was 6,972,735 pounds, valued at $677,897, a gain of 750,280 pounds, but a loss of $405,749. The principal increases were in the aku, akule, aweoweo, gold-fish, hapuupuu, kumu, laenihi, moi, opelu, weke, and papai fisheries. The principal decreases appear in the amaama (mullet), hauliuli, kawakawa, kole, malolo (flying-fish), moano, oio, uku, ulua, opihi (limpet), and ula (crawfish) fisheries. The decrease in the malolo fishery is especially noteworthy. In 1900, 573,082 pounds of malolo, valued at $145,085, were secured, while in 1903 the catch amounted to 36,175 pounds, worth $3,678, a decrease of 536,907 pounds and $139,407. The natives are the only fishermen engaged in catching malolo, and in 1903 they made but little effort.

Commercial fishing is carried on from the islands of Hawaii, Kauai, Kahoolawe, Lanai, Maui, Molokai, Nihau, and Oahu, the list being increased since the last inquiry by the addition of Kahoolawe, for which no fisheries were reported in 1900. The fishermen from these islands visit certain other small and uninhabited members of the group, but the catch has been credited to the islands on which the fishermen live. The Japanese are rapidly acquiring control of the fisheries and fish trade, and on certain islands are now able to fix prices at almost any figure they wish, which explains the high price at the markets. The fish ponds on Oahu, however, where they are most numerous, are monopolized by the Chinese, who control the prices for amaama (mullet), the principal fish food for the white portion of the population.

An unfortunate feature of the fisheries of certain islands, notably Maui, Molokai, and Kaui, is the absence of inspection of the fish as landed. During the last half of 1903 there were inspectors at Wailuku and Lahaina, on the island of Maui, but for financial reasons their services were dispensed with on January 1, 1904, and there is now no inspection at those important points. Fish become tainted very quickly in such a warm climate, and the Japanese, unless they are watched closely, dispose of such with the fresh ones.

Although it was so recently as 1899 that the first lot of frogs was introduced on the island of Hawaii, they have increased so rapidly around Hilo that many are now shipped to San Francisco, and the Honolulu market is also supplied from this section. This industry has not been so successful on the other islands, however.

One of the most peculiar features of the Hawaiian fisheries has been the well-developed principle of private ownership of fishes found in the open sea and bays to within a certain prescribed distance from shore. This being contrary to American practice, the enabling act which admitted the islands as a Territory in 1900 provided for the extinguishment of these rights on June 14, 1903, and fixed the manner of adjudication in the courts. In the lower courts the claims of the fishery owners were denied, it being decided that their fisheries did not constitute a vested right. One case, however, in which the fishery right was specifically mentioned in the original grant, was appealed to the United States Supreme Court, which in April of this year (1904) rendered a decision sustaining the claim. This decision will doubtless settle the status of all similar claims pending. There are a number of claims, however, in which the fishery is not specifically mentioned in the original grants, and these will doubtless have to be passed upon by the Supreme Court eventually.

FISHERIES OF THE INTERIOR LAKES AND STREAMS OF NEW YORK AND VERMONT.

A canvass of the commercial fisheries of this region was made in the fall of 1903, and the industry was found to be carried on in the following waters: Lakes Bear, Cassadaga, Canandaigua, Cayuga, Champlain, Chautauqua, Conesus, George, Keuka, Mill Site, Oneida, Onondaga, Otsego, Owasco, Seneca, and Skaneateles, and the Oneida and Seneca rivers in New York and Lake Champlain in Vermont. A few other lakes and streams were visited in both States, but as they have no commercial fisheries they are not enumerated.

The only other canvass of this region made by the Bureau was in 1896, when data were collected for the calendar year 1895. A comparison of the figures for the two years shows a most gratifying increase in every particular. In New York in 1895 the number of fishermen was 543, while in 1902 there were 804, a gain of 261. The total investment in 1895 was $19,745. In 1902 it had increased to $25,291, a gain of $5,546. In 1895 the total catch was 754,730 pounds, valued at $60,086, while in 1902 it was 1,530,918 pounds, valued at $87,897, a gain of 776,168 pounds and $27,811. The interior waters of this State produce more muskellunge and smelt than the fresh waters of any other State in the Union, while they lead all other waters, except the Great Lakes, in the catch of bullheads, pickerel, wall-eyed pike, yellow perch, and suckers.

In Vermont a most gratifying increase is shown so far as apparatus and shore and accessory property are concerned. The catch increased from 298,139 pounds, valued at $7,160 in 1895, to 542,812 pounds, worth $37,669 in 1902, a gain of 244,673 pounds and $30,509. These figures represent the fisheries in that portion of Lake Champlain lying within the State of Vermont. On the New York side no netting is permitted, but Vermont allows it during certain seasons of the year. Missisquoi Bay, at the foot of the lake, is the principal net-fishing region, and in the spring a number of seines are hauled here and in adjacent sections of the lake, for wall-eyed pike mainly; in the fall they are hauled principally for white-fish, locally known as "shad." Many attempts have been made to stop this form of fishing, which is exceedingly destructive to some of the most valuable species in the lake, more particularly wall-eyed pike, white-fish, and pickerel, which form nearly half of the catch, but it seems impossible to do so while Canada permits her fishermen to haul seines in that part of the bay which lies within her borders.

In 1902 the State of Vermont granted 5 gill-net licenses to take white-fish in Lake Bomoseen, 2 for Lake St. Catherine, 1 for Lake Memphremagog, and 1 for Lake Hortonia, and these nets captured 3,462 white-fish in Lake Bomoseen, 543 in Lake St. Catherine, 105 in Lake Memphremagog, and 165 in Lake Hortonia. A very few perch, pickerel, and sun-fish were also taken in the nets. The fishery can hardly be called commercial, as most of the fish caught were consumed by the fishermen.

The greatest drawback to the fisheries of many of the lakes and streams is the presence of undesirable species. The alewife in Seneca Lake and the ling and carp in most of the waters are very objectionable. The alewife and ling are not used for food. The carp, if taken in the winter and shipped alive to New York City, would net the shipper a fair price, being a very hardy fish, which would stand shipment in ice and arrive in good condition.

THE PACIFIC COAST COD FISHERY.

The last canvass of the cod fisheries of the Pacific coast supplied data for the year 1899. In that year there were taken in Alaskan waters and landed at San Francisco 5,917,131 pounds of salted cod, of $178,054 value. In 1903 there were landed at San Francisco 19 cargoes of cod, amounting to 2,022,300 fish in number, or approximately 9,605,925 pounds, of $288,177 value. Of this number, 170,000 fish

were caught in Okhotsk Sea, 867,300 in Bering Sea, and 985,000 at the various stations among the Shumagin Islands. The Pirate Cove station is credited with 525,000 fish, Unga station with 224,000, and Sanak and Dora Harbor stations with 236,000. There were employed in the fishery 13 vessels, carrying 167 men and 52 boys. The stations employed 86 men.

A few years ago a number of the cod stations were closed and held in reserve, being considered too expensive to operate, and besides, the fish on adjacent grounds were said to be growing scarce. Since that time these stations have been reopened and a few others have been established, but it is now claimed that cod are becoming scarce on the grounds in the vicinity of Pirate Cove as compared with former years, and the closing of the station for a year or two is being considered. The station situated near the southern entrance of False Pass, suspended for a number of years, was operated in the season of 1903.

It is learned that fishing on Slime Bank, at one time a most prolific source, has been practically abandoned, because, according to fishermen, this ground has been "fished out." Port Moller and banks lying farther to the eastward are now the scene of operations.

Previous to 1892 the cod fishery of the Pacific coast was conducted from San Francisco. In that year Capt. J. A. Matherson, of Anacortes, Wash., formerly of Provincetown, Mass., fitted out the schooner *Lizzie Colby* for a cod-fishing trip to the Bering Sea, and, the first voyage proving a success, since that time has made annual trips to that region. Up to 1903, however, when she landed at Anacortes 360,000 pounds of cod, valued at $10,800, this vessel was the only one on Puget Sound engaged in the cod fishery. In that year two other vessels fitted out at Seattle for Alaska, returning with about 400,000 pounds of fish. One of these vessels obtained her fare in Bering Sea, the other in the vicinity of Sanak Island. Another company has recently been formed, with headquarters at Anacortes, and has a fleet of four vessels. It is expected that some of these will fish in Bering Sea during the season of 1904.

It will thus be seen that the cod fishery of the Pacific coast is rapidly growing. The method of preparing the salted product is practically the same as that followed on the Atlantic coast, the fish undergoing about the same kind of treatment. The artificial drying of cod is carried on to some extent at San Francisco, machines for that purpose having recently been introduced. From the fact that new firms are being established along the coast, it may be inferred that there is an increase in the demand for the Pacific cod.

THE HALIBUT FISHERY OF THE PACIFIC COAST.

In 1887 the halibut fishery of the Pacific coast began to attract the attention of New England fishermen, and soon afterwards a number of vessels from Gloucester, Mass., started around Cape Horn for Puget Sound. On reaching their destination they fitted out at Seattle and Port Townsend for the unexplored fishing grounds of southeast Alaska and British Columbia. Several trips of fletched halibut were secured, but, there being no market for the product on the Pacific coast, the fares were shipped overland to Boston and Gloucester. The cost of transportation, however, rendered this enterprise unremunerative, and the fresh halibut fishery also, since the local demand was

limited and a large portion of the product had to find market in the East, was for a time unprofitable; but, Atlantic halibut becoming scarce, the demand for the Pacific coast product increased to such an extent that eastern firms were attracted to Puget Sound and British Columbia, and in the last ten years this branch of the fisheries has greatly increased in importance.

In the early years the fleet of small boats, sloops, and schooners engaged in catching halibut on the local banks—Cape Flattery, Cape Scott, and around San Juan Islands—landed its fish at Port Townsend, but since 1888 Seattle, owing to its superior shipping facilities, has become the business center.

While the sailing vessels comprised in the halibut fleet of Seattle do not compare in size with those of the Atlantic coast, they answer every purpose for which they were designed, many of them having fine lines and being built to encounter rough weather. The large vessels first employed were found to be expensive, and, moreover, the shortest route to most of the halibut banks being through the narrow channels and passages between the islands and mainland of British Columbia, smaller vessels were found better suited to the purpose. It was soon recognized that the route leading to the fishing grounds of the North could be better navigated by steam than by sail power, but it was not until about eight years ago that steam vessels were adopted. At various times individual enterprises with steam vessels have been undertaken, only to be abandoned after a season or two; but the forming of the company at Vancouver, backed by eastern fishing firms, gave the halibut industry a new impetus.

Steamers were at first chartered by the company, but as the industry maintained a steady increase it was deemed advisable to have vessels especially built for its needs. The steamer *New England* was launched at Camden, N. J., in 1897, and was brought around Cape Horn to Vancouver. In 1902 the steamer *Kingfisher*, built at San Francisco, was added to the fleet. The steamer *Saga*, of Vancouver, now owned by the New England Fish Company, has also been converted into a halibut vessel, and is to make regular trips to the banks.

The fresh halibut fishery of the Pacific coast was canvassed in 1900 for the year 1899. In that year there were landed at the various points on Puget Sound 3,439,640 pounds of halibut, having a value of $108,170. In 1902, according to the Pacific Fisherman for April, 1903, there were landed in the State of Washington alone 20,050,000 pounds. Reckoning 2 cents a pound as an average price received by the fishermen, this quantity of fish would represent a little over $400,000 in value. The number of pounds given, however, probably includes the catch for that year landed at Vancouver, which was not included in reports of the last canvass. In the same year 5,019,000 pounds of halibut were shipped from Vancouver to Boston, leaving 15,031,000 pounds to be disposed of at Seattle, Tacoma, and other points on Puget Sound. Some remarkable catches have been reported for 1903, the steamer *New England* being said to have obtained a fare of 145,000 pounds of halibut in one day's fishing, the greatest amount ever taken in one day by a vessel carrying 12 dories.

In 1903 the halibut fleet of Seattle numbered thirty-odd sailing vessels, mostly schooners, and one steamer. The schooners are small, ranging from 8 to 42 tons; the steamer *Rainier*, lost in November, was 109 tons register. Besides this fleet there were two other steam-

ers, the *New England* and the *Kingfisher*, 71 and 141 tons, respectively, that sailed out of Vancouver, British Columbia, and as these vessels are owned by the New England Fish Company, they should be included in the American fleet. Their catch is landed at Vancouver and shipped overland in bond to Boston, where it is reshipped to various points in the West and to cities along the Atlantic seaboard.

Considerable investigation has been made at different times by fishing vessels with the object of discovering new halibut grounds, but little has been learned in recent years to indicate the existence of extensive banks offshore. The principal grounds lie, for the most part, in waters belonging to British Columbia. Large fares have been taken in Dixon Entrance, off Cape Muzon and Cape Chacon, and many trips have been secured farther north in the channels and bays of southeast Alaska, but the largest catches have been made in waters adjacent to the northern end of Queen Charlotte Islands and on banks on the east side of Hecate Strait. During the winters for the past ten years a few small steamers and an occasional schooner have been engaged in catching halibut in southeast Alaska and shipping them to Puget Sound. It may be stated that the halibut grounds in this region are not so large and prolific as those farther south.

THE SAN FRANCISCO WHALING FLEET.

The fleet of whale vessels having headquarters at San Francisco, Cal., in 1903 comprised 10 steamers, 6 barks, and 4 schooners, a total of 20 vessels, of which number 2 steamers and 4 barks were owned at New Bedford, Mass. The number of whales captured during the year was 169, of which 19 were bowhead, 5 right, and 145 sperm. These were all secured by 14 vessels, the remainder of the fleet being reported without any catch. The whale products landed at San Francisco consisted of 59,750 pounds of whalebone, 20,601 gallons of whale oil, and 179,770 gallons of sperm oil. This included 23,000 pounds of whalebone obtained from 12 whales caught in 1902 which did not arrive in San Francisco until 1903. The approximate value of whalebone was $5 a pound; of whale oil, 38 cents a gallon; and of sperm oil, 55 cents a gallon.

The portion of the above catch taken by the 6 New Bedford vessels in the fleet was 1 bowhead, 1 right, and 136 sperm whales, yielding 2,700 pounds of bowhead whalebone, 1,100 pounds of right whalebone, 7,330 gallons of whale oil, and 169,911 gallons of sperm oil.

THE SALMON-CANNING INDUSTRY OF THE PACIFIC COAST.

Washington.—It was not expected that the salmon pack on Puget Sound in 1903 would reach the unusual figures of 1901—919,953 cases, representing a value of $3,957,334; in 1902 the same region yielded 450,424 cases, valued at $1,290,951, a shrinkage of 469,529 cases and $2,666,383. But at no time in the past ten years have these fisheries been so disappointing as in 1903. There was not a large run of sockeye salmon at any time during the year. In the early part of the season the canneries began operating on a small scale, but fully expecting a large run of fish later. As the season advanced, however, the prospect grew less. Only a few of the small canneries obtained full packs; those with a capacity for a pack of 150,000 cases put up

less than half that amount. Frequently during the season reliable reports were circulated that large schools of fish had been seen off Cape Flattery, Barclay Sound, and in the mouth of the straits of Juan de Fuca, all of which led fishermen and cannerymen to believe that there would be a large fall run, but the fish that were expected did not appear, and by the middle of August the season was considered a failure.

The entire output of sockeye salmon was 159,307 cases, 127,571 cases less than were packed in 1902. The total output of all species in this region in 1903 was 455,393 cases. The total pack for the State, including the coast rivers and the Washington side of the Columbia River, was 569,036 cases, valued at $2,058,443. The pack for the same territory in 1902 was 642,370 cases and in 1901 1,081,548 cases, respectively.

The quality of Chinook salmon was said to be much better than in any past season, the fish being larger and of better color, and the percentage of white-meated fish less than is usually found. The output was 119,777 cases, valued at $537,997, only 18,413 cases of which were packed on Puget Sound, a large portion of the catch being utilized fresh, mild cured, and placed in cold storage. There were mild cured 575,000 pounds of Chinook salmon, and 660,000 pounds of other species placed in cold storage, valued at $66,650. The combined value of canned product, mild cured, and frozen salmon for the State amounted to $2,125,093.

In the State of Washington 28 canneries were operated, valued at $1,296,000, and giving employment to 8,687 persons. There were employed 1,437 gill nets, value $189,308; 57 drag seines and 70 purse seines, value $52,100; 656 traps (pound nets), value $1,058,293, and 29 fish wheels, value $29,000. In connection with the fishery there were also used 67 steamers and launches having a value of nearly $350,000; 154 seine boats, 270 Columbia River boats, 314 dories and skiffs, 359 scows, 32 pile drivers, and 4 sailboats, valued at $366,393. The total amount of capital invested was $3,341,094.

Oregon.—The run of salmon on the Columbia River in 1903 was unlike any previously known to the fishermen. In April, when the season opened, there was a considerable body of chinooks in the river, but in a comparatively short time they became scarce. Up to this time only a small portion of the gill nets, seines, and traps had been employed, and it was not until the season had become well advanced that it was thought advisable to bring all the fishing gear into use. At the end of June, 1902, the pack amounted to 123,000 cases; at the same time in 1903 the output was about 50,000 cases, a most remarkable decrease.

From time to time large schools of salmon were reported off the mouth of the Columbia and along the coast of Oregon. These fish were daily expected to enter the river, but instead only scattering small schools appeared in July, lasting but a few days. During this time the outlook, even for an average pack, was not encouraging, and there was considerable speculation as to the advisability of artificial propagation. Many who had hitherto looked upon it with considerable favor now seriously questioned this method of keeping up the supply, and the possibility of restoring the salmon fisheries of the Columbia River to their former importance by this means was consid-

ered extremely doubtful. The skepticism was suddenly checked, however, by the most phenomenal run of salmon ever witnessed on the Columbia River. The immense school of fish frequently reported off the coast made its appearance July 31 at Baker Bay, the traps in that vicinity being crowded to their fullest capacity. As the school advanced traps farther up the river also became crowded. The gill-netters began to take more fish than they knew what to do with, and the combined catch of traps and gill nets was more than the canneries and cold-storage plants could handle, the result being that nearly as many fish were thrown away as were utilized. So great was the stench rising from decomposed fish washed upon the beaches at Astoria that the city authorities were obliged to take steps to remove the nuisance.

The following is an extract from the Pacific Fisherman:

The average duration of a run of salmon in the Columbia has been three or four days, but in this instance there appeared to be a solid body of fish enter the river of magnitude never before equaled. As in other fishing centers, there is always a tale of some former year when the run was greatest, but this year all the old fishermen acknowledged it to surpass all that they had seen or have ever heard of, and even now, more than two weeks after the season has closed, the river is known to be full of fish hunting around for their natural spawning grounds. The character of the fish was equally as remarkable as its size, considering how late in the season it arrived. In years gone by the June run, which came late in June or early in July, was considered the best fish for commercial purposes in color and richness, but this run did not appear, but in its place the great run, fully four weeks later, and it was in fact the "June" run, as the appearance and quality of the fish were identical.

Salmon continued to arrive in a solid body until August 15, the beginning of the close season. During these fifteen days a pack of over 191,000 cases was made—over half the entire output of the river for the season—and fishermen, cannery employees, and all others connected with the fishery worked almost unceasingly, resting only a few hours at a time. At the close of the season there were few men either directly or indirectly connected with the Columbia River fisheries who were not greatly interested in the artificial propagation of salmon, and who did not strongly urge its support. The consensus of opinion now is that the future abundance of salmon in this region depends almost wholly on the amount of fry liberated from the hatcheries.

Heretofore the spring run of salmon of the Columbia River has always commanded a higher price than fish taken later in the season, the meat of the early fish being of a brighter color and containing more oil than fish taken during the fall run. A change in the quality of the fall run of fish was noticed about two years ago, when a considerable number of fish were found to possess all the qualities of spring fish. In the fall of 1902 a larger percentage of this kind of fish was noticed, and from the phenomenal fall run in 1903 a large portion of the pack made was composed of salmon that could be classed as "spring fish." Many theories are advanced in explanation of the superior qualities of this run of salmon over that of past years, it being claimed by many persons that it is due to the work of the hatcheries, because only the best fish are selected for spawning purposes. Others maintain that the change in the quality of the runs is due to natural causes.

Eighteen canneries and 9 cold-storage plants were operated in

Oregon in 1903, representing an approximate value of $650,000. The output of the canneries was 306,031 cases, valued at $1,558,399. The fish handled by the cold-storage plants were as follows: Chinook salmon, mild cured, 6,740,200 pounds; fishermen's price, $404,412; frozen fish, consisting mostly of silver salmon, dog salmon, and steelhead trout, 1,024,843 pounds; value, $48,079.

The number of men directly connected with canneries was 4,172. The fishing apparatus consisted of 13 traps, 35 fish wheels, 40 drag seines, and 876 gill nets, the combined value of which amounted to $315,300. There were also employed 751 gill-net boats, 107 dories and skiffs, 74 scows, and 5 pile drivers, valued at $168,275. Connected with the fishery were 25 small steamers and launches, ranging in size from 2 to 118 tons and valued at $111,118.

In recent years the cold-storage plants have received the largest and best chinook salmon, which they bought for 5 cents per pound for fish weighing less than 25 pounds and 6 cents per pound for fish weighing 25 pounds and over; in some instances 7 cents a pound was paid for choice fish. In consequence of the advance in price paid by the cold-storage plants, the packers have not always been supplied with fish as large as desired for canning purposes, and the cannery men have found it more profitable to dispose of the especially large fish to the cold-storage plants than to can them. To protect themselves, and in the future to be able to handle all grades of fish, many of the cannery firms are arranging to have cold-storage and mild-curing plants connected with their establishments. Already a few have done so, and should the demand for mild-cured and frozen salmon continue to increase as it has in the last few years, it is predicted that in a short time all the canneries on the Columbia River will be constructed for handling both frozen and mild-cured fish.

It will be noticed by referring to the accompanying tables that the pack of steelheads for Oregon in 1903 amounted to a little over 7,000 cases. This decrease in quantity was owing to the large demand for frozen fish, a large portion of the catch being utilized in this manner; the cold-storage plants handled nearly 850,000 pounds, or 12,500 cases.

At times shad are plentiful in the Columbia River, but they are chiefly taken incidentally in traps and seines. There is comparatively a small demand for this fish, and large numbers are allowed to escape, although some shipments are made to Portland and various points on Puget Sound. As an experiment, the Sanborn Cutting Company, of Astoria, recently packed 1,292 cases of shad, but so far as is known there has been little or no sale for them. The fish were prepared, packed, and cooked in the same manner as salmon, and it is believed by the packers that could a market be created for this product, an industry of considerable importance would result.

The packing of salmon bellies and tips is an experiment undertaken by the Tallant & Grant Packing Company, of Astoria. Two hundred cases of each were put up in 1903, a case holding 4 cans, the weight of each can being 12½ pounds, or 50 pounds of fish to the case. The price of a can of bellies is $2.50, or $10 a case, of the tips, $1.50 a can, or $6 a case. Only a small portion of a fish is used for this purpose, the remaining part being packed in the usual way, and it is only when salmon are scarce that they are put up in this manner. It is understood that about twenty years ago a few cases of this product were put

on the market, but there being no demand for it the project was soon abandoned. At the present time, however, there is considerable call for this article of food among the first-class hotels and restaurants.

California.—California ranks last in importance in the production of canned salmon, having only three canneries, two situated on the Sacramento River and one at Requa, in the northern part of the State. The pack in 1903 amounted to 12,102 cases, with a value of $65,359. The pack for 1902 was 17,246 cases, with a value of $93,128, and in 1901 it was 18,309 cases, valued at $106,182. The value of the canneries and accessory property is approximately $80,000, and they gave employment to 221 men, of whom 37 were regular fishermen. Besides this number, however, many men engaged in fishing for the markets of San Francisco and Sacramento at times disposed of their catch at the canneries and cold-storage plants. The Carquinez Packing Company, on the Sacramento River, owns no boats or nets, but purchases all of its fish, and during the season of 1903 took fish from 212 fishermen. The Black Diamond Canning Company also obtained most of its fish in this manner.

The spring pack of the Carquinez Packing Company was 4,200 cases of 1-pound talls. No fall fish were packed. The Black Diamond Cannery packed 1,819 cases of spring and 2,583 cases of fall fish. The Klamath Packing Company put up 3,500 cases. The steady decrease in the annual output of the canneries on the Sacramento River is due to the fact that a considerable portion of the catch is mild cured. In 1901 the Carquinez Packing Company utilized in this manner 252,000 pounds of salmon; in 1902, 350,000 pounds, and in 1903 539,000 pounds, representing a total value to the fishermen of $45,640 for the three years. Had this amount of fish been packed, it would have been equal to 16,779 cases, 68 pounds of raw fish being reckoned to a case. The quantity of salmon mild cured by the Black Diamond Canning Company was 1,272,600 pounds in 1901, 1,036,800 pounds in 1902, and 1,092,200 pounds in 1903, the first value for the three years combined being approximately $148,000. Of these fish 768,800 pounds were caught in Monterey Bay and shipped to San Francisco, where they were cured and placed in cold storage.

The salmon taken in Monterey Bay are all caught by trolling, none being taken in gill nets or other forms of apparatus. It is stated by fishermen that on July 8, 1903, 1,500 fish were caught in this manner, averaging in weight 23 pounds.

Besides the mild-cured salmon prepared by the two canneries above mentioned, there were 1,733,933 pounds handled by small cold-storage plants, making a total output of 3,365,133 pounds.

Salmon output of Washington, Oregon, and California in 1903.

Species.	Number of cases.			
	1-pound talls.	1-pound flats.	½-pound flats.	Total.
Chinook salmon	285,145	64,008	24,990	374,188
Sockeye salmon	93,959	53,084	26,137	173,180
Silver salmon	106,461	19,384	15,188	141,033
Humpback salmon	166,236	8,798	1,563	176,597
Dog salmon	12,848	.....	.....	12,848
Steelheads	9,373	.....	.....	9,373
Total	674,022	145,209	67,878	887,169

Salmon pack of Washington, Oregon, and California in 1901, 1902, and 1903.

Species.	Washington.		Oregon.		California.		Total.	
	Cases.	Value.	Cases.	Value.	Cases.	Value.	Cases.	Value.
1901.								
Chinook	85,784	$332,996	171,716	$996,953	18,807	$106,182	275,757	$1,436,071
Sockeye	802,067	3,609,301	2,895	14,475			804,962	3,623,866
Silver	101,100	353,850	52,080	208,320			153,180	562,170
Humpback	33,052	99,156					33,052	99,156
Chums	58,117	145,292	14,608	43,824			72,725	189,116
Steelheads	1,458	5,832	10,525	46,313			11,983	52,142
Total	1,081,543	4,546,457	251,824	1,308,882	18,807	106,182	1,351,679	5,961,521
1902.								
Chinook	107,621	430,484	202,168	1,091,707	17,246	93,128	327,035	1,615,319
Sockeye	288,904	1,300,068	13,393	59,998			302,297	1,360,066
Silver	115,326	415,178	29,641	106,707			144,967	521,880
Humpback	9,108	18,216					9,108	18,216
Chums	119,101	285,842	14,770	35,448			133,871	321,290
Steelheads	2,310	9,240	7,828	34,443			10,138	43,683
Total	642,370	2,459,028	267,740	1,328,303	17,246	93,128	927,356	3,880,454
1903.								
Chinook	119,777	537,997	242,259	1 308,159	12,102	65,359	374,138	1,911,515
Sockeye	150,993	735,602	18,247	59,612			173,180	795,304
Silver	104,078	374,631	36,955	147,820			141,033	522,501
Humpback	176,597	388,514					176,597	388,514
Chums	6,348	11,426	6,500	11,700			12,848	23,126
Steelheads	2,308	10,133	7,070	31,108			9,373	41,241
Total	569,096	2,058,443	306,031	1,558,399	12,102	65,359	887,169	3,682,201

THE ALASKA SALMON FISHERIES.

The output of the fisheries of Alaska for 1903 compares favorably with the season of 1902. While in 1903 the pack was 290,614 cases less than the pack of the preceding year, the advance in the price of salmon caused the value to exceed that of 1902 by nearly $1,251,000, the latter year yielding 2,536,824 cases, valued at $8,498,360, while in 1903 the output was 2,246,210 cases, with a value of $9,748,799. Of this amount the Alaska Packers' Association canned 1,267,693 cases, in addition to salmon salted and placed in cold storage.

The decrease in the pack of 1903 was not wholly the result of the small run of salmon, but was in a measure due to the smaller number of canneries operated, and to the fact that many of the canneries in southeast Alaska, on account of the low price of salmon at the beginning of the season, had contracted for a smaller number of cases than they would have packed had the increased value been foreseen.

There were 64 canneries operated in 1902, 9 of these having been built that year; 2, on the other hand, suspended operations. In 1903 60 canneries were engaged in packing salmon; 3 were built that year, only 2 of which were operated, and 5 suspended operations. The number of men engaged in the salmon fisheries was 14,708 in 1902, and 13,106 in 1903, a decrease of 1,602.

The output of salted salmon in 1902 was 25,936 barrels, valued at $191,248. There were placed in cold storage and dry salted 141,600 pounds of salmon, representing a value of $5,190. In 1903 there were salted by the canneries and salteries 35,748 barrels, value $261,086. The Pacific Cold Storage Company, at Taku Harbor, placed in cold storage 17,690 pounds of king salmon, 34,087 pounds of cohoes, 72,944 pounds of dog salmon, and 12,551 pounds of steelheads. This com-

pany also dry salted for the Japan market 243,441 pounds of dog salmon, a total of 380,713 pounds, value $11,732.

As is frequently the case in a poor season, salmon were scarce in certain localities and plentiful in others. At Karluk in 1902 the pack was 204,190 cases; in 1903 only 90,103 cases were packed by the two canneries operated there, which are owned by the Alaska Packers' Association. The Arctic Packing Company, located at Olga Bay, 80 miles distant, met with a similar experience, the output being 45,145 cases in 1902 and 25,470 in 1903. These canneries employed about the same number of men each year, and the same kind and quantity of fishing gear. At times during the season of 1903 when salmon were quite plentiful at Chignik, Cook Inlet, and Prince William Sound, hardly enough fish could be obtained at Karluk and Olga Bay to keep the canneries running.

Many theories are advanced by cannerymen and fishermen in general as to the cause of the variation in the runs of salmon in different streams. The belief is freely expressed by some that it is due to the work of artificial propagation, and that the fry liberated from the hatchery at Karluk, arriving at the spawning age, found the waters of Cook Inlet and parts of Prince William Sound better suited to their requirements than the home stream. Others attribute the scarcity to weather conditions, and a few venture to state that instead of the large runs appearing in any particular region in cycles of four years, as is the commonly accepted theory, they require a much longer time, and from one phenomenal run to another periods of eight or nine years may elapse. The erratic runs in recent years, combined with the parent-stream theory, which in a measure has been upset by the failure of the salmon from hatcheries to return to the streams where planted when expected, has set in motion a new line of thought regarding their movements. Each season brings unlooked-for conditions, and to-day there is more attention given to the study of the habits of salmon by cannerymen than ever before.

During the past four years attention has been directed to Bristol Bay as the best region in which to engage in the salmon fisheries. The cost of operating a cannery here is probably greater than in southeastern Alaska, but the higher grade of salmon packed compensates for the extra expense involved. In 1903 the pack in this region amounted to nearly 200,000 cases more than that of 1902. Here, the season being short, about five or six weeks at most, salmon must almost daily arrive in large numbers if a full pack is to be secured. A "slack spell" for any considerable length of time is likely to result in small packs, for the time lost in the early part or middle of the season is not likely to be made up later, as is the case in some other parts of Alaska, owing to uncertain weather conditions which prevent extensive fishing. The pack, moreover, must be loaded into ships, and it is very desirable that this should be done as early in the season as possible.

The Nushagak River is the most northern point in Bristol Bay where salmon have been taken for commercial purposes. During the last three years several parties have been investigating the waters of the Kuskokwim River and tributaries, and report that a large body of red salmon enter this river annually. One of the principal obstacles to the establishment of canneries on the Kuskokwim is the shallow intricate passages leading into it. which prevent large craft

from entering. Ships are an indispensable adjunct to a cannery in this region, there being no other means of transportation, and until a channel for deep-draft vessels is defined the chances are that this river will not be fished to any great extent.

Several salteries have been established on Bristol Bay southwest of the Naknek and Ugashik rivers, between Port Haiden and Khudubine Island, and the owners of these salteries intend to erect canneries on the sites in the near future.

In the years 1900, 1901, and 1902 a large number of canneries were built in southeast Alaska, although as early as 1900 there were evidently as many as the streams would support. The result has been that in the last two seasons a number of establishments were obliged to close. It has been reported that the cannery belonging to the Union Packing Company, situated at Kell Bay, Kuiu Island, is to be dismantled and the machinery taken to Bristol Bay.

The demand for mild-cured and frozen salmon being great, it is possible that in the future more of this product will be furnished by Alaska. So far only two plants have been established in that territory, one at Taku Harbor and one at Ideal Cove, the north arm of the Stikine River. The plant at Ideal Cove was operated in a small way during the seasons of 1901 and 1902, but it being made unlawful to take salmon in 1903 before July 1, and the king salmon, the species desired, being obtainable mostly in May and June, this company was forced out of business. The other company, however, having a cannery, was enabled to operate, putting up canned, mild-cured, and frozen salmon. The species utilized in the cold-storage plants were chiefly red salmon, cohoes, dog salmon, and a few steelheads.

The ruling which prohibited the taking of salmon in southeast Alaska prior to July 1 has now been set aside, and it is possible that this will encourage the erection of cold-storage plants. There are, however, only a few localities in this region where king salmon may be secured in considerable numbers, and as this fish is mostly used by cold-storage plants for mild-curing purposes, the other species not being suitable, there is room for only a limited number of establishments of this kind. The demand for frozen salmon is increasing, however, not only in European markets but throughout the United States, and should the time come when it is more profitable to freeze than to can cohoes and dog salmon, many of the canneries now idle and some of those in operation will no doubt be converted into cold-storage plants.

METHODS OF CANNING SALMON.

An interesting account of the packing of salmon on the Columbia River is given by Mr. W. A. Wilcox in the Fish Commission Report for 1896, and the subject is also briefly treated by Capt. Jefferson F. Moser in his report on the Alaska salmon industries. Since that time, however, important changes have taken place, and while the method is essentially the same on all parts of the Pacific coast, there are a few points connected with the salmon industry of Alaska which may be mentioned.

Improvements in the nature of machinery introduced in the canneries of Alaska in the last few years have made it possible to pack nearly double the former output with little if any increase in the number of men employed. Each year has brought forth some new labor-saving

device, and nearly every branch of the work is now performed with the aid of machinery, which in many instances gives more efficient service than work by hand.

Probably in no year since machinery has been extensively used in salmon canneries have there been more labor-saving machines employed than in 1903. In that season four different patterns of fish cleaners were tested, all giving satisfaction. Among other inventions, several forms of automatic weighing machines were introduced, and several styles of soldering machines were used, taking the place of the chain machine so common a few years ago. There are several kinds of machines for washing cans, also several styles of topping machines. One of the latest inventions is a machine called a "stopper," for soldering the ventholes in the cans previous to making the test for hot leaks. Filling machines apparently reached a certain perfection some four years ago, since which time few improvements have been added, but many improvements have been made in retorts, greatly facilitating the cooking of salmon, and the machinery for manufacturing can bodies and tops has also undergone a change.

When the industry was in its infancy a pack of 150 or 200 cases was considered a good day's work. Now it is not an uncommon occurrence for a cannery to turn out from 1,500 to 2,000 cases in a day, and there are several canneries that have even a greater capacity. The daily average for an Alaska cannery is from 800 to 1,000 cases for one filler, and nearly double that amount for two. A few establishments have three fillers, and one in the Bristol Bay region has six, but it is seldom that this number of machines is kept in operation at one time.

A pack of 1,000 cases a day requires a complete modern equipment and the work of only skilled hands. In the early days of the industry most of the men employed were inexperienced, and much confusion, as well as considerable waste of material, was consequently occasioned. Now, however, a large portion of the men are employed season after season, in one cannery or another, and in a well-organized establishment the same men are engaged in the same kind of work each year, thus becoming expert in their particular lines.

There are a few canneries that have not kept pace with the times in the way of machinery, and still adhere to methods long discarded by the modern plants. This lack of improvement is largely due to the want of capital, and also to the value of the stream where the canneries are situated. An establishment located at the mouth of a bay or river which will yield not over 20,000 or 25,000 cases of salmon at most in a season is under an expense too great to permit an outlay such as would be required to place it on an equal footing with others more favorably situated. It is not to be inferred, however, that the canneries less fully supplied with labor-saving machines do not put up as fine a quality of salmon as those more fully equipped; the quality and commercial value of the packs are about the same, the only difference being that the result is attained by a slight variation in method.

From the time a salmon is landed upon the wharf until cased and ready for shipment, it is handled about twenty-four times. To watch the rapid steps of the process is most interesting, particularly if the old and new methods of packing be compared.

Handling the salmon.—Scows, boats, large dories, and steamers are used in landing the catch. Formerly the fish were pitched by hand into bins near the dressing tables on the wharf when the tide was out, but this laborious method has been largely superseded by the use of an elevator built at the end of the wharf and reaching the water's edge at a slant, to be lowered or raised according to the stage of the tide. The fish are caught up by the elevator, and on reaching the top are run into the building by means of chutes leading to the various bins. At a number of canneries tracks have been laid on a slip cut through the wharf from the upper side down an inclined plane to the water's edge, and on these small fish cars are run. At Loring a double track is built out from the cannery, forming a kind of slip into which the steamers or boats can come and discharge fish from either side.

The salmon usually remain in the bins from twenty to twenty-four hours before being dressed, at the end of which time they are in much better condition for canning than if they had been dressed immediately after being caught. The danger of canning fish that are too fresh, however, is of minor importance as compared with the tendency in the other direction.

Dressing fish.—The manner in which salmon are handled by the "butchers," or dress gang, is a remarkable development of speed and skill, acquired through long practice. In most canneries this work is performed by Chinese, although Indians are sometimes employed and also become very expert. Two men constitute a "butcher's gang." The number of gangs in a cannery is regulated by its size and capacity. From 30 to 40 salmon are placed in a row upon a long table, heads toward the operator. One man cuts off the heads, and is followed immediately by another, who removes the fins, tails, and viscera. Only one stroke of the knife is required to remove the head; eight more cuts, and the fins and tail have been taken off and the belly opened. The first process is thus completed. The offal falls through an opening in the wharf and supplies food to a large number of salmon trout, sculpins, a few cod, and frequently halibut.

From the hands of the dress gang the fish pass into cleaning tanks, where they are scaled, washed, and given a partial cleaning on the inside. Each fish passes through at least two, and frequently three of these tanks. In the second cleaning they receive the same treatment as in the first, small bits of offal, blood, and scales which were overlooked in the first cleaning being now removed. To make sure that nothing of an objectionable nature remains, they are subjected to another inspection by a third man.

A machine which practically does away with the men in the "butcher" room was invented by Mr. William Munn, of San Francisco, who is connected with the Alaska Packers' Association. It has been used in various canneries belonging to that company during the past three seasons, and is said to give much satisfaction. Another type of fish cleaner has since appeared on the market, 23 of these machines having been used in various canneries of Alaska during the season of 1903. It is stated that each means a saving of from 15 to 20 men, and that it will satisfactorily open the fish, remove the entrails, scrape the blood from the backbone, and thoroughly wash the body. More recent inventions are used in canneries on Puget Sound, and still another machine, invented by Mr. E. A. Smith, of

Seattle, Wash., and used for the first time, in 1903, by the United Fish and Packing Company, at Fairhaven, Wash., removes the head, tail, and fins, and opens and thoroughly cleans the fish ready to cut into pieces for the cans. Fish that are dressed by the cleaning machine require less inspection than those cleaned by hand.

Cutting the fish.—Having undergone examination to insure cleanliness, the fish are pitched upon a table, attached to which is a machine that cuts them into proper lengths to fit the cans. This apparatus consists of a number of knife blades semicircular in form, with the sharp part on the convex side. The blades are set in a wooden roller or axle, and so arranged that they can be set at any desired distance apart, thus cutting the salmon into lengths to fit either "talls" or "flats," as the case may be. A fish is placed under the row of knives and the handle attached is brought down with a quick stroke, which cuts the fish transversely into pieces corresponding to the number of knives. In canneries where full lines of machinery are installed, this method has given way to the rotary cutting machine, which consists of gang knives set in an iron axle or cylinder kept in motion by belt and pulley. The cylinder is attached to the top of an elevator, the same power running both. As the fish come from the third washing, they are carried to and under the revolving knives by the elevator.

In many instances the "butcher" room is situated some little distance from the main building, and the fish, after being dressed, are taken to the elevator in push carts. Some canneries have iron tracks leading to the cutting machine, and small hand cars are run for carrying the fish.

The introduction of cutting and filling machines has greatly increased the capacity of canneries; combined, they take the place of about 25 men. Formerly, after leaving the gang knives, the fish were cut into proper sizes to fit the cans by means of a long knife wielded by a Chinaman, who stood at a regular butcher's block and with quick strokes cut the sections of salmon in uniform sizes. From 2 to 4 men were thus employed. The pieces were either dropped into a basket or thrown into a wooden bin.

The tail piece is rejected by the rotary cutter and falls into a chute leading away from that into which the other portions are dropped. The very large tail pieces are utilized to some extent, but by far the greater number are thrown away. If salmon were less plentiful in Alaskan waters, it is very probable that only a small part of a fish would be rejected, but the tail portion is of small value as compared to the middle and head sections, and could not very well be placed in the same can without injuring the sale of the product. If packed under a distinct and separate label, however, there seems to be no reason why the tails should not be put on the market.

Counting the fish.—Some canneries pay the fishermen a monthly salary; others pay a certain price, according to the species, for each fish taken. Where 30 to 40 boats are engaged in fishing, the boat's account and that of the cannery do not always agree, and frequently long and heated arguments ensue. This difficulty is partially overcome by a device consisting of two levers fastened to a rod acting on a self-recording machine attached to the elevator that carries the fish under the rotary cutting machine, the levers hanging perpendicularly through a slot running the whole length of the elevator and so

arranged that when a fish is placed upon it and reaches a certain point the levers are forced up, thereby causing the machine to register. On being released, the levers drop through the slots, where they remain until another fish forces them up. While this apparatus does not insure an absolutely correct count on the part of the fishermen, it acts as a great check. Daily readings from the register give the exact number of fish packed, also the number of each species.

Filling the cans.—Having passed through the cutter, the salmon are now ready to be received by the filling machine, which cuts the sections longitudinally into the required size and at the same time fills the can. The Munn filling machine is about 7 feet high, and is built at an angle. It is fed from the top into the hopper, the mouth of which is the same shape as on a hand coffee mill. The pieces of salmon fall from the mouth down a chute, and are forced by two dogs into a receptacle through which the plunger, or filler, passes. The plunger in making a stroke cuts the salmon and at the same time fills the can within a fraction of an ounce of the required weight. Generally the cans overrun in weight; occasionally a few are weighed to see whether the machine is working properly.

Cans are led to the filler from the floor above by means of a belt, attached to which are wire racks about 4 inches apart, set at an angle to prevent the salt from spilling out. When a can arrives opposite the filler it is caught by a clasp or hook and held in front of the plunger, which is immediately thrust forward through a chamber filled with salmon, cutting the fish and at the same time filling the can. When in good working order, the machine will fill from 60 to 65 cans a minute, and when running at full speed can fill as many as 80 a minute. It is quite complicated in construction, but is easily kept in repair, and fills a long-felt want in salmon canning, performing as it does the labor of from 15 to 20 men. Its average guaranteed capacity per day is 800 cases, or 38,400 cans of 1 pound each; 48,000 cans have been filled by one machine for several days in succession. On being released by the clamp the cans roll on to a long table and are picked up by a man stationed there, who strikes each one down upon a square piece of lead weighing about 10 pounds, in order to settle the contents to the bottom, and for the purpose of detecting any deficiency in weight. So expert do these men become that the slightest variation in the quantity of salmon is detected. Cans that are not up to the standard are pushed to the opposite side of the table, where a man stands ready to supply the requisite amount of fish to fill them.

For the hand method of filling, a large pile of salmon is thrown upon a long table, making a kind of windrow in the middle from end to end. On either side are from 8 to 10 men, who select and put into the cans large pieces of salmon at first, then smaller pieces to fill all vacant spaces. As the cans are filled they are pushed along the table to the can cleaners and weigher.

The supply of salmon on the table is constantly being replenished by a man whose duty it is to keep the fillers occupied. In some hand-filling canneries each man has a box at his side, and as often as it is filled he carries it to an adjoining table, where the cans are washed or wiped, as the case may be, weighed, pieces of scrap tin ("chips") put in, and the tops put on. They are then ready for the soldering

machine. Canneries were in existence a long time before any improvement was made in the method of getting the cans from the filling to the weighing and capping table. At the present time, in most canneries where no filling machines are used, a revolving belt running in a wooden track about 14 inches above the table carries the filled cans to the weighing and capping table, where a man is stationed to receive them. This simple device is a great saving of labor.

Salting.—It is essential that all the cans contain the same amount of salt; otherwise hardly two cases of salmon would have the same flavor. This is an important feature, and one of the earliest things considered in salmon canning. If the eye were the judge of the amount of salt required in the cans, there would be little or no system connected with this branch of the work; consequently mechanical means must be employed.

One case of cans is salted at a single movement of the hand, thus: The workman stands in front of a table having a trough connected on the under side, into which slides a tray holding 36 or 48 cans. In the top of the table, corresponding to the number of cans, are holes arranged at equal distances apart, or in such a manner that if the table were filled with cans the center of each would be over one of the holes. On the under side is a sheet-iron plate which slides in a groove at the sides, and is worked either by a hand or foot lever. This plate is perforated with holes corresponding to those in the table above. A quantity of salt is thrown on the table and immediately scraped off with a thin-edged board about 2 feet long and 3 inches wide, each hole being filled in the scraping and the salt being prevented from falling through by the iron plate underneath. The lever is then pressed, moving the plate, and the salt falls into the cans below. This operation can be repeated four or five times in a minute, and one man is thus able to keep the filling machine supplied with cans.

Weighing and washing the cans.—A cannery that puts up a hand pack usually weighs each can of fish, a man being stationed at one end of the filling table for that purpose. Where filling machines are used, only an occasional can is weighed. A simple device has recently been invented for weighing the cans as they leave the filler. If they contain the required amount of salmon they are carried around by the machine and landed upon a table; if a can is light in weight it is carried only halfway around and automatically forced to one side to another table.

Cans leaving the hands of the two men stationed at the filling machine are pushed along the table to the hands of 6 or 8 men or women, who remove with dry, coarse cloths the grease or other material that may have collected on the outside. Until recently, however, in many canneries this labor was performed by a rotating washing machine, consisting of an iron cap the diameter of a can fixed to the end of a small perpendicular shaft revolving at considerable speed. Directly under the cap was an iron rest or stand, on which the cans were placed one at a time; the foot pressed a lever, which carried the can to the revolving cap above. It was then forced into the cap about one-eighth of an inch, a tight-fitting flange preventing the water from getting inside. The can was set in motion by coming into contact with the revolving cap, which also sent a stream of water against the can with sufficient force to remove the grease. For a long time it was

a mooted question among cannerymen whether wiping or washing was the better method. A single washer, however, performs the work of 6 or 8 men, which is a strong argument in its favor.

The use of this machine soon led to the invention of one of larger capacity. Instead of one stand, there are 10 joined, forming a circle about 18 inches in diameter. The cans are carried to the washer by a belt leading from the filling table, and each can, as it reaches the machine, is caught by one of the washers and the cap brought down over the top. Revolving rapidly as it goes, the can is carried until the machine has revolved 180 degrees, then is released and rolls out upon a table. In some canneries the grease is removed by steam applied in the same manner as the water. One of the latest improvements is cleaning the cans by a cold-air blast which strikes directly on the top edge. A set of brushes against which the cans revolve is another method.

After being washed or wiped, as the case may be, the cans pass to the farther end of the table, where a small piece of scrap tin is placed on the top of each. The pieces of tin are called "chips," and are from 1½ to 2 inches in diameter. The shape is of no particular importance so long as the pieces are large enough to cover the hole in the top of the can, or cap, as it is called. A great deal of scrap tin, which would otherwise be thrown away, is utilized in this manner. The men engaged in putting in "chips" also keep a sharp lookout for cans that may be too light in weight, and occasional tests are made.

Capping.—The next step in the process is the capping, or topping, which is done by a machine set close to the end of the table previously referred to. An endless belt, composed of rectangular pieces of metal, large enough for a can to rest on without falling while in motion, conveys the cans from the table to the capper. One man places the cans on the belt and another follows them along, on the watch for pieces of salmon or bones above the edge of the can. Pieces of fish, if there be any, are jammed down flush with the top, and the overhanging bones are cut off with a pair of scissors. On reaching the machine the can passes under a cap holding a top, which immediately falls upon it with just enough force to put on the top without injuring either. The can is then forced out from under the capper by the rotation of the machine, and the next capper is brought around to receive another can. The machine is supplied with tops by means of an iron chute. As the cans revolve they are carried under a crimper, situated directly opposite the capper, and while one can is being capped another is being crimped, after which it rolls out upon a belt on its side and is taken through the acid trough and thence to the soldering machine. The capper is supposed to correspond in speed with the filler.

Soldering.—In the early days of salmon canning the tops and also all other parts of a can were soldered by hand, a long and tedious process, which has now given way to the soldering machine. This is composed of an endless chain about 6 feet long, revolving around two shafts situated at either end of an iron trough, under which the heat is supplied. In the bottom of the trough is the solder, kept at molten heat by the fire underneath. The cans are forced along the trough by the chain in contact with their sides. Between the lower part of the chain and trough is just enough room for a can to pass without

jamming. The cans enter the trough at an angle, their bottoms slightly inclined, which causes the top rim to be submerged in solder, thus distributing it evenly all around the edge. This method is superior to hand work.

In passing through the trough the cans make about half a dozen revolutions, which cause the tops to become very hot, and it is to prevent them from being blown off by the pressure of the steam which quickly generates that the center hole in the top is made. The "chip," previously mentioned, prevents the hole from being choked with salmon.

Before the tops are sealed the edges must be treated with a solution of muriatic acid. This is done in the same manner as the soldering; that is, by being run through an acid trough. At no time are there less than three or four cans under the acid chain, and ten or twelve under the soldering chain. Much depends on the operator of these two machines, and only those who have had considerable experience are intrusted with this work. A watchful eye must be kept on all the cans as they pass through, to be sure that the proper amount of solder is received. With all the caution that is taken, an occasional top is blown off, and once in a while a rim will start, which necessitates repairs and a repetition of the process. Very often several cans require attention at once, although to the inexperienced eye they may be as perfect as any of the others.

The old style of soldering machine was built over a brick furnace, coal being used as fuel, and many of this type are still in use. The apparatus is 8 feet long, about 5 feet high, and 3 feet wide, however, and the amount of space required is an objection. The modern machine occupies no more space than the chain and trough of the old one; in fact, the later improvement in this style is the chain and trough, minus the brick furnace. The heating apparatus is a row of kerosene blast jets (7 in number) arranged directly under the trough, the oil and air pipes running parallel. The machine can be taken apart in a short time and set up again in any part of the building.

The improved chain soldering machines, however, are rapidly being supplanted by the spiral and finger sprocket machines. These inventions are of recent date, and are said by cannery men to be superior to the old forms. The new soldering machines have greatly expedited the work in canneries, and have been the means of reducing the number of leaky cans to a minimum, also of producing results much neater in appearance.

Testing.—On leaving the soldering machine, the cans roll down a wooden chute about 40 feet long, passing under several jets of water to set the solder. Some canneries use Manula's revolving cooler, a recent invention which practically does away with the long trough leading from the soldering machine. The disk upon which the cans rest is hollow and filled with running water. After making two revolutions, the cans are forced into an inclined trough under a stream of water. At the end of the chute are stationed two men who place the cans in coolers, or crates, which are made of flat strap iron, square shaped, and hold about 114 cans. The cooler having been filled, it is placed upon a truck and rolled aside, where the vent holes are stopped with a drop of solder. The cans are now ready for the test kettle, or bath, a wooden box filled with water kept near the boiling point by steam pipes arranged at the bottom. The coolers are hoisted into the

test kettle by block and tackle attached to an overhead track, which permits the coolers to be swung to any place desired. From two to three minutes is required for the hot leak test.

This test reveals the leaks due to imperfect soldering. Two men superintend this work, and they, like all others connected with a cannery, are very skillful. The slightest leak is immediately detected and located by small bubbles issuing from the cans. The spots are marked and the cans are taken out and placed in small wooden trays, in which they are carried to the bench men, whose duty it is to mend them. Cans that have been mended are again tested as before. In large canneries, from 20 to 25 men, stationed in front of a long bench at the side of the building, are employed in mending cans. Formerly tinsmith's charcoal stoves were used for heating purposes, but these are now mostly out of use, the soldering irons being heated by kerosene fire pots, each pot supplied with oil and air led through small tubes, the heat and air being regulated by connecting valves. Gasoline has been used as fuel to some extent.

A cooler of cans having been tested, it is hoisted out, placed on a low square truck, and another takes its place in the bath.

Cooking.—The cans are now ready for the first cooking. It is said that in the inception of the salmon industry the cooking was considered by those not initiated in the method as an art in itself, and in consequence was guarded carefully by those possessing the knowledge. In a few years, however, the method employed became common property, since which time salmon have been cooked in the main portion of the cannery instead of in a separate room under lock and key. The first cooking was done in common tubs, hence the term bathroom now applied to that part of the building where the cooking takes place. The early retorts were of wood, made on the same principle as a steam box in a shipyard for steaming plank. Later, round iron kettles were substituted, these set on end, nearly one-half consisting of cover; and round crates were used for holding the cans. When a lot of salmon was to be cooked, the cover of the retort was lifted by block and tackle rigged overhead, the retort filled with crates and the cover lowered over them, the top and bottom being fastened perfectly tight by a set of screws and levers which extended all the way around. Steam was then turned on until the desired amount of heat was obtained.

The modern retort rests horizontally in a bed, the crates being rolled in on a track. The trucks which carry them hold six crates, one piled upon another, and four loaded trucks are rolled in at one time, representing on an average some 2,500 cans.

The number of retorts in a cannery is governed by its capacity; few canneries at the present time have less than four or five. In front of each retort is a turntable, on which is an iron track, the purpose of the turntables being to receive the loaded trucks which come on tracks from different parts of the building; also to facilitate the transferring of cans from one retort to another, since it is necessary to cook the salmon twice. After the retort is filled the door is securely fastened and the steam turned on, entering at the bottom. The amount of pressure is about 6 pounds, sometimes 12 pounds, the heat 250° F. In some establishments the first cooking is continued 40 minutes, but 60 minutes is considered by most cannery men the proper time for it.

After the first cooking the crates are taken out and placed on a long table, called a "venting table," where the cans are pricked to allow the steam and superfluous water to escape. The method of pricking is to use a small mallet with a short brad in the center. From 30 to 40 cases are placed on the table, and some six or eight Chinese, with mallets in hand, go over the entire lot with great rapidity, striking each can with a quick, sharp blow. With each stroke a jet of steam and fluid issue forth, rising to the height of 3 or 4 feet. No particular spot is aimed at; usually the puncture is made from one-half to three-fourths of an inch from the center of the top, and after the pricking or venting has been done the holes are soldered up. During this process an occasional defective can is found, and these are put aside to be repaired, a can which has been mended being substitued. When all the cans have been gone over the coolers are again loaded on the trucks and rolled into the second retort, where they are subjected to the same pressure of steam and heat as in the first cooking.

It is claimed by nearly all cannery men that if the cans were kept in the first retort long enough to complete the cooking the amount of steam generated would spoil the contents. It is understood that Mr. William Munn, superintendent of the cannery at Alitak, Kadiak Island, has successfully experimented with one cooking, but so far as known none of those fish have been placed on the market. Mr. F. A. Seufert, however, owner of a cannery at The Dalles, Oregon, has been placing on the market for the last five years salmon which have undergone but one cooking, and says that not a single case has been returned.

The same species of salmon in different localities often requires different treatment, the method to be determined by observation. As the same superintendent usually has charge of a cannery each season, all local difficulties, which for a time would be serious obstacles to a new man, are reduced to a minimum; but the different opinions advanced regarding the cooking and handling of salmon in a cannery are necessarily the result of individual experience in different regions.

Cooling.—As soon as a retort is emptied of cans it is filled with a fresh supply from the bath, and when the cannery is operated at its full capacity the bathroom men are kept very busily employed. On coming from the second retort the coolers and contents are lowered into a bath of lye, which removes from the cans all grease and other material. A slight rinsing and a few rubs with a brush over the top of the cans finish this work, and the cans then go into the cooling room, where a stream of water is played upon them. If the weather is rainy, they are frequently put out of doors upon the wharf and there allowed to cool. During a heavy run of salmon it often happens that the cooling room is blocked, and at such times the wharf is usually resorted to. The cans are tested during the cooling process, and many are noticed which require repair; in fact, in every handling more or less defective cans are found, and with all the care exercised, there is at the end of each season a considerable number of cases that can not be labeled as being first-class. These are put into separate lots and labeled according to quality.

While cooling, the top and bottom of the cans immediately commence to contract, and for several hours a sharp popping sound is heard. Here the cans are again tested, this time by tapping the tops

with a small piece of iron about 6 inches long, a 12-penny nail being sometimes used. The sound conveys to the ear of the operator an unmistakable meaning as to the condition of the can. The rapidity with which this work is done is remarkable, and the cans that escape notice during the other tests are invariably found in this one.

Lacquering and labeling.—From the cooling room the cans are transferred to another part of the building, where the lacquering is done. They are piled on end from 18 to 20 tiers deep, usually covering a space 30 by 60 feet. In many large canneries double this amount of space is covered with cans to a depth of 5 or 6 feet.

The lacquering and labeling are usually done during the middle and latter part of the season, or at times when there is a "slack spell" in the run of fish. Generally two men do the lacquering. At the end of the season, however, when the cannery is being cleaned and put in order for the winter, more men are engaged in this work. Three cases of salmon are immersed at one time. The lacquer is held in a box or trough 7 feet long, 3 feet wide, and 14 inches deep. The sides and ends of the trough are made of wood, the bottom of iron rods running lengthwise 3 inches apart; a tray fits in at the top. The cans rest on the rods at an angle, and are placed to avoid contact with each other. It is necessary that they should not touch, for if thrown together in any manner the lacquer would not present a smooth surface when dry. On each end of the trough is an upright with block and tackle attached, for lowering and hoisting the tray, which is filled with cans. After being lowered into the liquid it is immediately raised to the top edge of the trough, where it remains until the cans are dry enough to handle. They are then taken to the labeling room and stacked in tiers as before. From eight to ten lacquering troughs are in operation, and as the lacquer dries very quickly the work proceeds with great rapidity.

The old method of lacquering was to dip each can separately by hand, but the process was slow as compared with the present method. A number of long boxes, each containing about a half-barrel of lacquer, with racks arranged on the side for drying cans, composed the entire apparatus.

The lacquering machine is among the most recent improvements introduced in canneries, but it has not been adopted to a very considerable extent. By its means, however, it is possible to lacquer the pack made each day, thereby saving much time at the end of the season.

The work of labeling the cans comes next. Machines have been invented to do this work, but for the most part it is done by hand, and in the following manner: From 8 to 10 men are seated in front of the row of cans, about 4 feet apart. Each man has in front of him a bunch of several hundred labels, and by bunching them on a slant, so that a small margin of the bottom one protrudes beyond the one above it, he can apply paste to the entire number with one stroke of the brush. A can is placed in the center of the label, is quickly rolled, and the label is on. The skill displayed by many of the men and women engaged in this work is remarkable. Each man places to his right the cans he labels, forming a pile of length and width equal to his unlabeled pile. When the entire lot has been labeled it has been shifted only about 4 feet. On the Columbia River and in the Puget

Sound region, where the canneries put up fancy brands of salmon, most of the cans are wrapped in colored tissue paper before being labeled.

It should be stated that while the labeling is going on the cans are receiving another test. Each row is gone over as on previous occasions—that is, the cans are tapped with a small piece of iron—and even at this stage an occasional faulty can is found. These, however, had not been overlooked in former tests, but defects which before were too small for observation have since developed.

Brands of salmon.—Each cannery puts up several brands of salmon, some a dozen or more. There are a number of reasons for this, one being that there is more than one quality of salmon packed from a single species; fish packed within twenty-four or thirty-six hours after being caught are superior to those that lie on the wharf or in boats four or five days. It is sometimes impossible to pack fish soon after their arrival at the cannery, and in some cases they are much older than they should be when put into the cans. Another reason is in the demand in different parts of the country and abroad. Even one lot of fish, packed in the same way, may be split into two or more brands, which are equally good. A certain brand of salmon with an established reputation is sought by merchants in certain localities to the extent of several thousand cases, and 30,000 or 40,000 cases of the same brand in another part of the country. No other brand will sell as quickly; the same fish under another mark might lie in the storehouse uncalled for for an indefinite period. When the Alaska Packers' Association purchased a large number of the canneries in Alaska, each packing salmon under many different labels, it was necessary to retain the brands of each individual cannery in order to hold the same customers. This is true also of the Pacific Packing and Navigation Company.

After labeling, the pack is put in cases holding forty-eight 1-pound cans each. A few canneries put up 1-pound "flats," but the major portion of the Alaska salmon is packed in 1-pound "talls." Frequently the cans are labeled and cased at the same time, which work is carried on chiefly at or near the end of the season by the cannery employees, while the fishermen and crews of vessels are engaged in stripping the seines and gill nets and stowing them away, in taking up traps, hauling up and storing boats, scows, and lighters, and also in loading the ship with the pack and getting her ready for sea. The cannery machinery, also, must be taken apart, overhauled, oiled, given a coat of white lead, and put in good condition for the next season, all of which requires considerable labor. During the winter months the canneries are in charge of watchmen.

REPORT

ON THE

ALASKAN SALMON FISHERIES.

REPORT

ON THE

SALMON FISHERIES OF ALASKA.

DEPARTMENT OF COMMERCE AND LABOR,
DIVISION OF ALASKAN FISHERIES,
Washington, D. C., January 25, 1905.

SIR: I have the honor to submit herewith my annual report on the inspection of the salmon fisheries of Alaska for the season of 1904.

Receiving on May 6 my usual instructions for the summer's work in the field, and after having prepared and forwarded instructions to the assistant agent, I left Washington en route to the Pacific coast, it having been arranged with the Treasury Department that a revenue cutter should be in readiness to sail from Seattle, Wash., on the customary cannery cruise on or about June 15.

On that date I joined the revenue cutter *Perry* at that port, and on the same day began the cruise. The start was made in good season to insure that all the canneries and principal fishing grounds could be visited and inspected, and such proved to be the case. Every cannery except two, and all the salteries except one, were visited by the agent or assistant agent. The total number found in operation was 55 canneries and 18 salteries. Of these I personally inspected 52 canneries and 4 salteries.

There were 5 canneries less in operation than last year. The difference in number is accounted for by the suspension of 8 old plants and the addition of 3 new ones.

The season's pack shows a large loss from that of 1903, but in this respect Alaska suffered proportionately far less than other salmon-packing regions. In considerable part the Alaska decrease was due to the suspension of plants and to intentional curtailment of the output of medium red and pink varieties. Statistics show that the take of red salmon was unusually large in several parts of the district.

The situation in regard to the enforcement of the law for the protection of the fisheries was, on the whole, quite satisfactory. But few violations were detected, and none of these were of a serious character. A few cases were reported for prosecution, and others, due simply to ignorance, were passed over with a warning to delinquents.

As reported a year ago hatchery operations, except in a few instances, are so trivial and valueless as to be unworthy of consideration. The expectation that the Government will engage in this important work has encouraged most of the packers to not even perfunctorily observe the regulation, and many of the smaller ones feel that the pecuniary burden would be insupportable. There are only two hatchery plants in Alaska that show respectable results, and both are operated by the same company.

DIARY OF THE CRUISE.

The following is a day by day record of the movements of the agent throughout the season, from the date of departure from headquarters until the return of the revenue cutter to Seattle, Wash.:

May 15.—Left Washington at 7.30 p. m., en route to Seattle, Wash., to join revenue cutter *Perry*. Stopped over on trip to the coast until June 4.

June 7.—Arrived at Seattle at 8.30 p. m. The vessel was not in readiness to sail.

June 15.—Joined the *Perry* and got under way for Alaska at 12.15 p. m. Came to anchor off Port Townsend at 4.40 p. m. Distance logged, 38 knots.

June 16.—Sailed for Victoria, British Columbia, at 4 a. m. Reached there at 8.15 a. m. Distance logged, 35 knots. Sailed for Union, British Columbia, at 4.17 p. m.

June 17.—Arrived at Union at 6 a. m. Distance logged, 135 knots. Ship coaled.

June 18.—Resumed journey at 4.30 p. m.

June 21.—Came to anchor off Ketchikan, Alaska, at 3.40 p. m. Distance logged, 448 knots.

June 22.—At Ketchikan.

June 23.—Sailed for Sitka at 5.50 a. m.

June 24.—Came to anchor off Sitka at 6.25 a. m. Distance logged, 195 knots. Vessel remained here till the 28th, on account of ship's business.

June 28.—Sailed for Orca, Prince William Sound, at 6 p. m.

June 30.—Anchored off cannery of the Pacific Packing and Navigation Company at Orca at 6 p. m. Distance logged, 374 knots.

July 1.—Visited cannery of Alaska Packers' Association at Odiak, 5 miles from Orca, in ship's steam launch.

July 2.—Inspected Orca cannery.

July 3.—Sailed for Dutch Harbor at 6 a. m.

July 6.—Anchored at Coal Harbor, Unga Island, at 6.15 a. m.

July 7.—Resumed trip at 9 a. m.

July 8.—Made fast at wharf at Dutch Harbor at 1.15 p. m. Distance logged, 989 knots.

July 9.—At Dutch Harbor on account of ship's business.

July 10.—At Dutch Harbor on account of ship's business.

July 11.—At Dutch Harbor on account of ship's business.

July 12.—At Dutch Harbor on account of ship's business.

July 13.—Sailed for Ugashik (Bristol Bay, Bering Sea) at 6.30 a. m.

July 14.—Anchored in Bristol Bay, supposedly off Ugashik River, at 9.30 p. m.

July 15.—Remained at anchor in fog.

July 16.—Weighed anchor at 5 p. m. and kept under way till 8 p. m., seeking entrance to river.

July 17.—At 8.30 a. m. further unsuccessful efforts were resumed to find Ugashik. Attempt was finally abandoned, and orders were given to proceed to Naknek. Anchored off Naknek River at 4 p. m. Distance logged from Dutch Harbor, 424 knots. Fifteen ships were anchored in the offing of Naknek River.

July 18.—Superintendent Nelson, of the Alaska Packers' Association canneries at Naknek, came off in his steam launch to the cutter at 6 a. m., and took the agent into the canneries.

July 19.—At Naknek, visiting the canneries of the Alaska Packers' Association and the Naknek Packing Company.

July 20.—Went in Alaska Packers' Association steam launch at 6 a. m. to Koggiung, 30 miles up Kvichak River. Returned to ship at 11.50 p. m.

July 21.—Sailed for Nushagak River at 10.30 a. m. Came to anchor off the Johnson cannery of the Alaska Packers' Association at 9.30 p. m., being piloted into river by Superintendent Johnson. Distance logged, 70 knots.

July 22.—Visited Wood River cannery, in launch furnished by Superintendent Johnson, at 8 a. m.

July 23.—At 4 a. m. started to visit Clarks Point canneries of Alaska Packers' Association, Columbia River Packers' Association cannery, and North Alaska Salmon Company cannery. Returned to ship at 3 p. m.

July 24.—At 5 a. m. went to canneries of the Alaska Fishermen's Packing Company and the Pacific Packing and Navigation Company. Returned to ship at 12 m. Visited Alaska-Portland Packing Company cannery.

July 25.—Sailed for Ugashik River at 10.20 a. m., Superintendent Johnson piloting the vessel to sea. Anchored off mouth of Ugashik River at 10.20. Distance logged, 92 knots.

July 26.—Went into anchorage at 8 a. m. Was taken by Alaska Packers' Association steamer *Kodiak* up to the Williams cannery. Superintendent Williams took me to the upriver canneries, 15 miles distant.

July 27.—Was taken out to the ship by the steamer *Kodiak* at 11 a. m. The *Perry* sailed for Dutch Harbor at 11.40 a. m.

July 28.—At sea, en route for Dutch Harbor.

July 29.—Came to wharf at Dutch Harbor at 10.30 a. m. Distance logged, 386 knots.

July 30.—At Dutch Harbor, on ship's business.

July 31.—At Dutch Harbor, on ship's business.

August 1.—At Dutch Harbor, on ship's business.

August 2.—At Dutch Harbor, on ship's business.

August 3.—At Dutch Harbor, on ship's business.

August 4.—At Dutch Harbor, on ship's business.

August 5.—Sailed for Chignik Bay at 11 a. m.

August 6.—At sea en route to Chignik Bay.

August 7.—Arrived off Chignik Bay at 10 a. m. Distance logged, 391 knots. Took ship's steam launch for Alaska Packers' Association cannery, 6 miles upriver. Returned to ship's anchorage at 3 p. m. Visited Pacific Packing and Navigation Company's cannery. Sailed for Karluk at 5.15 p. m.

August 8.—Anchored off Karluk at 11 a. m. Distance logged, 145 knots.

August 9.—Sailed for Uyak Bay at 6 a. m. Anchored off Pacific Packing and Navigation Company's cannery at 8 a. m. Distance logged, 18 knots. Sailed for Kussilof, Cook Inlet, at 9.45 a. m.

August 10.—Anchored 4 miles off Alaska Packers' Association cannery at Kussilof at 9 a. m. Distance logged, 159 knots. Sailed for Yakutat at 2 p. m. Anchored for night at 5 p. m.

August 11.—Got underway at 3 p. m.

August 12.—At sea.

August 13.—Anchored in Yakutat Bay at 2 p. m. Distance logged, 566 knots.

August 14.—Sailed for Sitka at 6 a. m.

August 15.—Made fast to wharf at Sitka at 8.10 a. m. Distance logged, 235 knots. Sailed for Klawak at 5 p. m.

August 16.—Came to anchor 1 mile off North Pacific Trading and Packing Company's cannery at Klawak at 11 a. m. Distance logged, 155 knots. Sailed for Taku Harbor at 6 p. m.

August 17.—Anchored off Pacific Cold Storage Company's cannery at Taku Harbor at 6.45 p. m. Distance logged, 240 knots.

August 18.—Sailed for Juneau at 6 a. m. Anchored off Juneau at 8.10 a. m. Distance logged, 21 knots.

August 19.—Sailed for Pyramid Harbor, Lynn Canal, at 3.45 a. m. Came to off Alaska Packers' Association cannery at Pyramid Harbor at 12 m. Distance logged, 84 knots. Sailed for Chilkat Inlet at 1.35 p. m. Came to off Alaska Fisheries Union cannery at 2 p. m. Distance logged, 6 knots. Sailed for Haines at 3 p. m. Came to off Columbia Cannery Company's cannery at Haines at 5.30 p. m. Went to anchorage at Haines at 7 p. m. Distance logged from Pyramid Harbor, 35 knots.

August 20.—Sailed for Skagway at 6 a. m. Made fast to wharf at 7.15 a. m. Distance logged, 16 knots.

August 21.—Sailed for Funter Bay at 6 a. m. Anchored 1 mile off cannery at the Thlinket Packing and Trading Company at 3.10 p. m. Distance logged, 75 knots.

August 22.—Sailed for Sitkoh Bay at 4.45 a. m. Came to off cannery of Pacific Packing and Navigation Company at 10.12 a. m. Distance logged, 55 knots. Sailed for Sitka at 11.10 a. m. Came to anchor off Sitka at 5.30 p. m. Distance logged, 60 knots.

August 23.—At Sitka on ship's business.

August 24.—At Sitka on ship's business.

August 25.—Sailed for Pillar Bay at 6.30 p. m.

August 26.—Came to off cannery of Pillar Bay Packing Company at 6.30 a. m. Distance logged, 100 knots. Sailed for Tonka at 7.30 a. m. Anchored off Pacific Coast and Norway Packing Company's cannery at Tonka at 4.40 p. m. Distance logged, 101 knots. Sailed for anchorage at head of Wrangell Narrows at 5.15 p. m. Anchored at 6.30 p. m. Distance logged, 10 knots.

August 27.—Sailed for Point Highfield at 8.35 a. m. Anchored off cannery of Alaska Packers' Association at 11 a. m. Sailed for Fort Wrangell at 1.20 p. m. Distance logged from Tonka, 40 knots.

August 28.—Sailed for Lake Bay at 5 a. m. Anchored 3 miles off cannery of F. C. Barnes at Lake Bay at 9 a. m. Distance logged, 35 knots. Sailed for Loring at 11 a. m. Anchored off cannery of Alaska Packers' Association at Loring at 5.20 p. m. Distance logged, 65 knots.

August 29.—Visited Loring hatchery, 8 miles up Naha stream, and chain of lakes.

August 30.—Sailed for Ketchikan at 9.20 a. m. Anchored off Ketchikan at 11.55 a. m. Distance logged, 25 knots.

August 31.—Sailed for Metlakahtla at 11.05 a. m. Came to off cannery of Metlakahtla Industrial Company at 12.45 p. m. Distance logged, 20 knots. Sailed for Wales Island at 1.10 p. m. Anchored at Mary Island for night at 4.10 p. m.

September 1.—Resumed trip to Wales Island at 1.05 p. m. Made fast at wharf at Wales Island at 3.15 p. m. Distance logged from Metlakahtla, 50 knots.

September 2.—Sailed for Seattle, Wash., at 6 p. m.

September 3.—At sea, en route to Seattle.

September 4.—At sea, en route to Seattle.

September 5.—At sea, en route to Seattle.

September 6.—At sea, en route to Seattle.

September 7.—Anchored off Seattle at 5.30 p. m. Distance logged from Wales Island, 615 knots.

Total distance logged on cruise from Seattle and return, 6,625 knots. Time occupied, eighty-five days. The work included many side trips in steam launch and small boats, the distance of which is not included.

INSPECTION OF CANNERIES.

The inspection of canneries and salteries, and many of the fisheries supplying the same, was this season very thorough and satisfactory. The agent, as usual, undertook to cover the entire ground, barring the smaller salteries, to the limit of the capacity of the ship to transport him. In point of fact that was exceeded, and by the courtesy of the cannery people many places were visited where the revenue cutter did not go. The omissions were only three canneries, which it was well nigh impossible to reach, and in each instance persons connected with them were seen and furnished all the information desired.

Ketchikan.—The plant of the Fidalgo Island Canning Company, at Ketchikan, is the first salmon cannery in Alaska to be reached frm the southeastward. I arrived there on June 21. As was expected it was not yet in operation, as salmon rarely run in any volume in that region before July 1. No salmon were running at this date in Ketchikan Creek, and Superintendent Jensen said he did not expect to put out his boats for a week or more. Last season the plant was not operated as a cannery, but was leased to other parties, who salted salmon bellies.

The second visit to this cannery was made August 30. It was found that the season had been very favorable. The run of red salmon had been unusually large, while humpbacks were plentiful. Cohoes were running at this date and were expected to continue till September 10. The first pack was made July 7. The cannery was outfitted to put up 35,000 cases, with a guarantee of 12,000. It had secured 25,000, of which 10,000 were red salmon, and the superintendent had no doubt of making the pack at least 30,000. As the canning is done mainly by hand work the results indicated a successful season.

Orca.—Inspected the cannery of the Pacific Packing and Navigation Company at this place July 2. The plant had been in operation since May 10, when the first pack was made. While the run of fish had been as good as usual (and in Prince William Sound it varies little from year to year), there had been so much bad weather that the pack was smaller than last year at same date by about 5,000 cases. There had been unusually heavy rains and violent storms, which prevented fishermen from working. The pack at this time was about 21,000 cases—all red salmon. The outfit was for 40,000 cases, with a guaranty of 25,000. Superintendent Brownell did not doubt that a full pack would be secured, although the season would run later than last year, when operations had ceased early in August. The pack of 1903 was 35,081 cases. A new lacquering machine was in use in the Orca cannery and

gave great satisfaction. It has a cold-blast attachment that dries the lacquer almost instantly and distributes it upon the can more evenly than does the dipping process.

Odiak.—The Odiak cannery of the Alaska Packers' Association is about 5 miles distant from Orca, and was visited July 1. The conditions were the same as those reported at the latter, the two companies fishing the same waters. The pack at this time was something over 20,000 cases—all red. The outfit was for 55,000 cases, with a guaranty of 35,000 cases. Superintendent Story felt sure he would make a full pack. The output for 1903 was 54,394 cases.

Naknek.—This place was reached July 18 at 6 a. m. Superintendent Nelson came off to the ship, which was anchored about 5 miles from his cannery, and took me in. It was learned from him that the season had opened very late, and the run of fish had been so light that the pack would at this point be the smallest of recent years. The two large plants of the Alaska Packers' Association had been able to run at full capacity but a few days, and the run of fish, even scant as it was, had not lasted more than ten days. At other times during the season only desultory schools afforded a slim supply to keep the canneries in operation, and it had only been possible to eke out about half a pack. The "Guardian" and "Arctic Packing Company" plants of this company, with a combined capacity of 6,000 cases per day, or 200,000 cases for a first-class season, had secured but 87,000 cases at this date, being 45,000 cases short of the pack at the same time last year. The two were outfitted for 175,000 cases, with a guaranty of 125,000 cases. Mr. Nelson was hopeful that he would be able to scrape together enough fish to fill the guaranty, although all semblance of a steady run had already ceased. The pack of 1903 was 174,709 cases. The Alaska Packers' Association had about completed telephone connection between its several canneries on Bristol Bay, at Ugashik, Naknek, Igagik, Koggiung, and Nushagak. This is a big undertaking and required more than 100 miles of wire. It will be of great value to the company in enabling it to take advantage of abundant fish supply at any point to help out shortages elsewhere.

The Naknek Packing Company, across the river from the above-named plants, had fared even worse. It was outfitted for 80,000 cases, and had put up but 20,000 at this date. Superintendent Peterson had little expectation of adding materially to the number, as even straggling schools were not likely to continue more than a week, and the catch from such sufficed to keep the machinery in motion but an hour or two per day. The pack of 1903 was 41,000 cases. The bad condition in the waters fished by these companies was thought to be due to the unusual lateness of the opening of the season, the river and its approaches having been blocked with ice until the latter part of June. The first catch of a few fish only was made July 2, and it was a week or more later before a full day's work was possible. During the height of the run, though it did not last more than two weeks, salmon were more abundant than could be handled at the cannery, and surplus fish to the number of 200,000 were sent to canneries at Egagek and Ugashik.

The anchorage off the mouth of the Naknek River had the appearance of a popular harbor, from the number of ships lying there. These to the number of fifteen, belonging to the several packing companies engaged in business at adjacent canneries, are kept here during the

fishing season awaiting the loading on of the pack, which is lightered off to them on large scows. The distance covered in lightering in some instances is more than 40 miles.

Koggiung.—On July 26 at 6 a. m. I went from Naknek on a gasoline launch belonging to the Alaska Packers' Association, which was placed at my disposal by Superintendent Nelson, to the Koggiung fisheries—the farther cannery being about 40 miles from Naknek. There are four concerns operating eight canneries and one saltery plant in this region. A new plant built by the Union Packing Company of Tacoma, Wash., formerly located at Kell Bay, Kuiu Island, southeastern Alaska, made its first pack on the Kvichak River this season. The company did not expect to do much more than make a start, having outfitted for only 20,000 cases, with a guaranty of 15,000 cases. It had packed 10,000 cases at this date, and it was believed that it would secure the full guaranty. The company had experienced difficulties in getting started, but had overcome them with the help of other concerns, and with the location of its Kvichak plant it is confident it has made a good change from Kell Bay, where it packed mainly pink fish.

The two double plants of the Alaska Packers' Association, composed of four canneries of the largest size, at Koggiung and Coffee Creek, had at this date packed 150,000 cases, on a guaranty of 225,000 cases. The run of salmon was not yet over at these fisheries, though they are only about 30 miles from Naknek, and Superintendent Jensen was confident the pack would reach 180,000 cases. As at Naknek, the canneries could not handle the full run of fish during the heaviest part of the season, which lasted about ten days, and 151,000 fish were sent to the associations' canneries at Egagek and Ugashik. The pack of 1903 was 254,029 cases.

The North Alaska Salmon Company's plants, located about 6 miles above the last named, made its first pack at the new cannery which was added to its plant last season, but this addition had not enabled it to equal its output of 1903. It had secured but 55,000 cases at the three canneries, which had been outfitted for 120,000, with a guaranty of 100,000 cases. Superintendent Hale was hopeful that the pack would reach 75,000 cases. The pack of 1903 was 72,397 cases.

The Northwestern Packing Company's saltery had put up about 1,000 barrels of salted salmon, less than half its pack of 1903. The proposed cannery of this company had not been completed for operation this season.

The general condition of the Koggiung fisheries was practically the same as at Naknek—a very late beginning of the run, fish in the greatest profusion for ten days or thereabouts, a sudden cessation of all semblance of a run, and thence up to this time a straggling, unreliable succession of variable-sized schools. During the height of the season salmon were sent from these fisheries to less favored ones.

The ship was reached on my return from Koggiung at about 12 midnight. It is always a satisfaction to have safely completed the Kvichak River inspection, which necessitates a very hazardous trip. Navigation is so intricate that it can not be undertaken by any but those with a thorough local knowledge of the twisting channels and quicksand shoals, and but for the aid of Mr. Nelson, superintendent of the Naknek canneries of the Alaska Packers' Association, I would never have gotten there. Each year he has come to my relief in this respect.

This valuable assistance in my work can always be accepted with propriety, for the reason that in this region there is never even a possibility of violations of law by the fishermen, as the physical conditions amply protect the ascent of salmon to the spawning grounds. It may be noted as an evidence of this fact that at Koggiung the river was so full of salmon fry making from the lakes to deep water that bushels of them were daily scooped up in fine-meshed nets and used by the workmen as a food delicacy. The round trip on the gasoline launch covered about 80 miles.

Nushagak.—The *Perry* reached the upriver anchorage at Nushagak at 9.30 p. m., July 21. She was piloted into the river as usual by Superintendent Johnson, of the Alaska Packers' Association. All facilities for visiting the many canneries on the river, which are separated by distances of more than 25 miles, were also furnished by him. A steam launch and local pilot were placed at my disposal until the work was concluded. But for this assistance it would be difficult to inspect the several plants in this locality, the tortuous channel, extensive shoals, and confusing tides rendering navigation extremely perplexing to a stranger.

As at all the other fisheries in Bristol Bay the run of salmon in the Nushagak had been disappointing. The opening of the season had been very late, and when the run set in it had been of brief duration. The river was not free of ice till June 27, and the first pack was made July 5.

On the 22d I started on the launch at 6 a. m. for the Wood River cannery of the Alaska Salmon Company, about 6 miles from the anchorage. A larger pack than usual had been expected at this plant, which was outfitted for 45,000 cases, with a guaranty of 40,000. At this date 28,000 cases had been put up, and though few salmon were now running, Superintendent Nichols believed he could get 30,000 cases in all. The pack of 1903 was 29,900 cases.

On July 23, at 5 a. m., Superintendent Johnson took me on his launch to the down-river canneries, about 20 miles from the ship's anchorage. These are the Clarks Point canneries of the Alaska Packers' Association, the Columbia River Packers' Association, and the North Alaska Salmon Company. The figures of the former are combined with those of the other Nushagak plants of the Alaska Packers' Association. The Columbia River Packers' Association had outfitted for 45,000, with a guaranty of 42,000 cases. It had packed at this date 28,500 cases and expected to get 30,000. Its pack of 1903 was 29,590 cases. The first pack, of a few cases only, had been made on June 18, but running ice prevented further fishing till the first week of July.

The North Alaska Salmon Company plant was outfitted for 35,000 cases, with a guaranty of 42,000 cases, it having had much material left over from last season. Only 19,000 cases had been secured thus far, and it was not expected the season's total would exceed 21,000 cases. The pack of 1903 was 20,500 cases.

On the 24th, at 6 a. m., I went across the river, which at this point is about 5 miles wide, and visited the canneries of the Pacific Packing and Navigation Company and the Alaska Fishermen's Packing Company. The latter had outfitted for 57,000 cases, with a guaranty of 53,000. It had packed 35,000 cases, and was about ready to close down. The pack of 1903 was 42,131 cases.

The Pacific Packing and Navigation Company had been particularly unfortunate, having lost its best steamer at the beginning of the season, it having run aground while engaged in the work of bringing salmon from Koggiung, where the company had operated a fishing gang before the run at Nushagak set in. By this accident it lost the best run at the former place, which otherwise would have greatly helped out its pack. The large plant was outfitted for 65,000 cases, with a guaranty of the same. At this date it had packed 52,000 cases, and Superintendent Brunbrook hoped to make the total 55,000 cases. The pack of 1903 was 66,500 cases.

On the 24th the plant of the Alaska-Portland Packing Company was inspected. It was outfitted for 50,000 cases, with a guaranty of 46,000. The pack at this date was 30,500 cases, with an expectation of securing 32,000. The pack of 1903 was 37,752 cases.

The four larger plants of the Alaska Packers' Association, composed of six canneries, with 14 lines of machinery in all, having a daily capacity of 12,000 cases (all under the management of Captain Johnson), is the largest concern at one fishery in Alaska, being one line of machinery ahead of the Koggiung plants of the same company. The united outfit was for 350,000 cases, with a guaranty of 294,000. The pack at this time was 208,000 cases, and it was confidently believed that a total of 230,000 cases would be reached. A good many red salmon were still being taken from the Wood River traps, and a trap in the Nushagak, close to the cannery, was taking plenty of humpbacks, which were being packed to eke out the guaranty. Usually few pink salmon are packed in Bristol Bay. The pack of 1903 was 257,325 cases.

The saltery of Peter Nelson was not visited, for the reason that it is located at a point about 20 miles outside of the mouth of the river—a very hazardous trip for a small boat, and not a place where it would have been prudent to attempt to take the revenue cutter without a local pilot, who was not to be had. It was understood that Mr. Nelson's pack would be about the same as last year.

With the exception of traps in Wood River, a tributary of the Nushagak, and a few small ones in the Nushagak, all the fishing in this region is done with gill nets. The traps in Wood River are a serious menace to this great fishery, and should, I think, be prohibited. Aside from this the perpetuity of the salmon supply of the locality seems to be assured by natural conditions which render it practically impossible to materially impede the ascent of the fish to the spawning grounds.

Egagek.—I was so fortunate as to meet Mr. Wetherby, superintendent of the Alaska Packers' Association cannery at Egagek, at Nushagak, which made it unnecessary to visit that most inaccessible place. He reported that the season there had been almost a total failure. There was no real run of salmon in the river at any time during the season, and the few fish that were taken were from random small schools. The two canneries there, with a joint capacity of 100,000 cases, had together packed less than 10,000. Nothing like this was ever before known. The plant of the Alaska Packers' Association was outfitted to pack 30,000 cases, with a guaranty of 25,000, had packed less than 5,000 cases, and the North Alaska Salmon Company, with about the same equipment and guaranty, had even less. The former packed 29,682 cases and the latter 24,700 in 1903. The

above-named stream in the past has been absolutely reliable for a moderate pack.

Ugashik.—The *Perry* went into anchorage in the Ugashik River about 5 miles from the first cannery, being piloted by the Alaska Packers' Association steamer *Kodiak* (which was followed over from Nushagak) at about 8 a. m., July 26. Superintendent Williams at once came off to the ship and took me to the upriver canneries, located about 15 miles from the lower cannery. This fishery had fared very badly in the general Bering Sea scarcity of salmon. The ice here was worse than anywhere else in Bristol Bay and did considerable damage to shipping, which found it impossible to enter the river until well along in June. Arctic bergs, which grounded in 4 fathoms, filled the stream up to almost the last of that month, and in finally passing out with the current tore large ships away from their anchorage, and in two instances carried away their massive stern posts and rudders. No worse season was ever experienced at Ugashik (which has had bad luck several years in succession), and although considerable numbers of fish were sent here from Naknek and Koggiung, the pack was almost a total failure. The two extensive plants of the Alaska Packers' Association, with a capacity of 3,600 cases per day, had not had a single day's run up to the limit. They were outfitted for 108,000 cases, with a guaranty of 105,000. Only 38,500 cases had been packed at this date, and the end of the season was at hand. The pack of 1903 was 84,593 cases.

The Red Salmon Packing Company had made a dismal failure, having put up but 5,500 cases, though outfitted for 45,000, with a guaranty of 40,500. In 1903 the pack was 29,590 cases. Superintendent Anderson considered the season closed, though still picking up a few fish from small fugitive schools.

The Bristol Packing Company had outfitted for 35,000 cases, with a guaranty of that number. Only 4,500 cases had been secured and further effort had been abandoned. In 1903 this cannery packed 16,000 cases. The company had experienced much difficulty in getting its ship into the river, and the drifting ice had come near to completely wrecking it afterwards. The sternpost and rudder had been carried away, and there was a good deal of question how adequate repairs could be made to render the vessel seaworthy for the return trip to San Francisco. It afterwards transpired that she became unmanageable at sea, and but for the timely assistance of a revenue cutter would probably have become a complete wreck.

The scant run of fish at Ugashik was attributed by all to the persistent unfavorable wind that kept the ice in the river and the salmon out of it. As this is the fourth consecutive season that these conditions have been experienced by Ugashik packers they are greatly disheartened, and it would not be strange if they should despair of making another successful pack there. The resources of the stream have certainly not been impaired by excessive fishing or unlawful methods employed. The river is wide and has never been trapped to any serious degree. An explanation of the repeated failures is doubtless to be found in meteorological conditions. An excellent hatchery site could be found on King Salmon River, a tributary of the Ugashik.

The Bristol Bay salmon fisheries, which embrace those at Ugashik, Egagek, Naknek, Koggiung, Kvichak, and Nushagak, furnish much the larger part of the red-salmon pack of Alaska, that variety being almost

exclusively taken there. There also is to be found a larger number of first-class packing plants in a relatively small, compact area than in any other portion of the district. The region contributes more than one-half the entire Alaska salmon product of all varieties. For the first time in its history the bay shows this season a falling off in the output, which in the past has been in a steadily ascending scale. The loss this year from the pack of 1903 is considerably in excess of the total pack of Bristol Bay in 1897.

On the Bering Sea coast, between Bristol Bay and Dutch Harbor, there are salmon salting plants at Bear River and Nelsons Lagoon. I have never been able to get to either place with the means of transportation at my command. At Bear River the Peninsula Packing Company, of San Francisco, had a crew with a large outfit for salting fish, and it was understood that if the situation warranted it they would erect a cannery in the near future. It was reported that the company was prepared to salt 10,000 barrels this season, but had fallen very far short of its expectations. At Nelsons Lagoon the Lagoon Packing Company did not salt this season.

Chignik Bay.—Arrived here on August 7, at 10 a. m. The ship's steam launch was dropped before the vessel went into anchorage, and I proceeded to the plant of the Alaska Packers' Association, about 6 miles up the Chignik Lagoon. The season at this place had been unusually good. There had been a great abundance of fish, and they were still running in large numbers. The first pack was made June 13 and the heavy run set in about July 11. It had kept up uninterruptedly. Besides a steady supply for the full capacity of the cannery here, 180,000 fish had been sent to Karluk and Alitak. On the day of my arrival 22,000 were sent and there was no sign of the run ceasing. The plant could have put up twice the pack it did had it been outfitted to do so. All material had been used up, and additional cans had been procured from the Alaska Packers' Association canneries at other points. The Chinese operatives were worn-out and insisted upon stopping work, or 10,000 more cases could easily have been added to the output. The plant was outfitted for 60,000 cases, with a guaranty of 42,000. The pack at this date was 64,000 cases, which would be rounded out to 65,000. The output of 1903 was 50,627 cases.

On the same day I visited the cannery of the Pacific Packing and Navigation Company. The same story was told here. All material had been worked up. There could easily have been a much larger pack made had tin and solder been at hand. The run was declared to have been the heaviest and longest in duration ever known at Chignik. The fish were of mixed varieties, which is not common here. The Chignik fish are large and uniform, but this season there were great numbers of a smaller sort, believed to have been diverted from other streams. Many of them were like the Karluk fish. At that point, about 150 miles across Shelikof Strait, there had been a singularly light run. This company had used only four of its fourteen traps, as that number was ample to supply the cannery. The company had also sent surplus fish to its cannery at Uyak Bay. The first big catch was earlier than at the upriver plant, which was probably due to the fact that the traps were in readiness earlier. This region is the marvel of Alaska salmon fisheries on account of the multiplicity of traps in the river. Practically no other mode of fishing is used, and the traps interlace so as to make it apparently impossible for salmon to get by

them and ascend to the spawning grounds. Nevertheless one season with another Chignik is a most reliable fishery, and at times, like this year, the profusion is phenomenal. The lakes were reported to be full of fish this summer. The explanation is probably to be found in the fact that the high tides raise the lead line of the trap webbing 3 or 4 feet from the bottom, and the salmon have free passage under it. The outfit of this cannery was for 67,000 cases, with a guaranty of 50,000. It now had 66,000 and expected to fill about 1,000 more, all the tin remaining. The pack of 1903 was 60,800 cases.

Alitak.—The outfit of the Alaska Packers' Association plant here was for 50,000 cases, with a guaranty of 34,000. It had at this date about 30,000, and expected to get at least 40,000. The pack of 1903 was 25,470 cases.

Karluk.—Reached this place August 8, at 11 a. m., and immediately went ashore and visited the canneries of the Alaska Packers' Association. The season had been an extremely bad one. Scarcely any "spring" salmon ran. The first pack was made June 3. A good share of the fish packed to date were received from Alitak and Chignik Bay. It was hoped that there might be a heavy fall run, but the indications were not flattering. The pack amounted to about 54,000 cases. The two large canneries were outfitted for 200,000 cases, with a guaranty of 90,000. It seemed probable, unless there should be practically no fall run, that the season's output would reach 85,000. The pack of 1903 was 90,000 cases, and that was considered a very black eye for Karluk. Of late years this has been an extremely variable fishery, fluctuating from more than 200,000 cases to the catch of last year, which was the smallest in its history. It was a singular circumstance that this season there were a great many small fish, running 20 to the case, something unknown in the past. The most experienced fishermen were unable to account for the fact.

Later I visited the hatchery plant of the company, situated several miles up the Karluk River. Large additions had been made to the hatchery, consisting of a new hatching house, 32 by 75 feet, and a filter house, 20 by 50 feet in size. About 100,000 spawning salmon would be used for the season, which is largely in excess of the number necessary in former years. There had been unusual losses of the fish by death before they reached the stripping state, which was believed to be due to the low water in the river that had been prevalent throughout the summer. Superintendent Richardson had become impressed with the conviction that the hatchery plant should be removed to the lake to obviate the necessity for the repeated handling of the fish, which is necessary under present conditions, as well as to give the fry a longer run to salt water. Under existing methods many fish are killed by being dragged in the seines over muddy bottoms; the live ones are then lifted into the water boats, from these into the first retaining pond, thence from one ripening pond to another as they progress toward fitness for stripping, and then handled over and over again for testing. It results that the spawners are interfered with as often as twenty times, inevitably to their injury. Large numbers die in the process. With the hatchery at the lake much of this repeated handling could be dispensed with, as the ripe fish could be taken directly from the lake into the stripping stations. There would undoubtedly be also a marked advantage in liberating the fry at the head of the river and giving them opportunity to grow in size

and strength before reaching the haunts, lower down the stream, of their terrible enemy, the salmon trout. This hatchery is finely equipped in all respects, and if not moved will be still further improved in facilities for the best results. Plans are now under consideration to perfect the fresh-water supply by extending the flume several miles into the hills, where there are fine springs. From 20 to 25 hands are engaged in the work during the summer and 11 throughout the winter. The expense to the company is heavy, and in view of the severe losses it has sustained repeatedly at its Karluk packing station, its unfaltering liberality in keeping up the outlay is most creditable.

Uyak.—Visited the canneries of the Pacific Packing and Navigation Company at this place August 9, at 8 a. m. The season had been quite good, and with the aid it had received from Chignik, and the good run at Alitak, where a fishing gang was kept, a full pack was made. Even more could have been done had material been provided. The outfit was for 45,000 cases, with a guaranty of 35,000. At this time 40,000 cases had been secured, and there was no doubt of all the tin being filled with red fish. The pack of 1903 was 36,321 cases.

Kussilof.—Inspected the cannery of the Alaska Packers' Association at Kussilof, August 10, at 10.40 a. m. No better season was ever experienced in Cook Inlet. Perhaps this was in a measure due to the fact that but one cannery was in operation, where there had formerly been three; but that fact did not largely influence the result, as the waters fished are so extensive. A full pack had already been secured at this date and every scrap of tin worked up. The first pack was made May 29, but there was no good run till July 16. It stopped August 4. It was remarkable that the first heavy run came down the inlet, having apparently gone up so far from the coast as to evade the traps when coming in from the sea. Superintendent Wetherby said he never before knew of such a circumstance. Red salmon were never before so plentiful in the inlet, and this cannery had never put up so many of them. The superintendent believed that Karluk fish had strayed up into that water, as very many of the fish were not half the size of ordinary Cook Inlet salmon. The outfit of the cannery was for 46,500 cases, with a guaranty of 38,000. The pack was 46,500 cases. That of 1903 was 45,388.

Yakutat.—Inspected the packing plant of the Yakutat and Southern Railroad at Yakutat Bay, August 13, at 2.30 p. m. This is a new plant, making its first pack this season. It is of moderate dimensions, having a capacity of 800 cases per day. It did not get into operation in time to avail itself of the first run of the season, but nevertheless had been fairly successful. It was outfitted for 30,000 cases, with a guaranty of 20,000. At this date 14,500 cases had been packed, and there was confidence that the number would reach 25,000. The red fish run was over, and the pack of these was 12,000. The cohoes, or silver salmon, are exceptionally fine in these waters, and the company expected to finish its pack profitably with these. The waters fished are the Ankow and Setuck rivers. A railway 9 miles long extends to the latter, and it is the expectation that the line will be extended to the Alsek, 46 miles distant from the bay. It was stated that when the road is available fish can be handled much cheaper by rail than by steamer. The Alsek has long been regarded as a great red-salmon stream, but has never been fished, for the reason that the water is shoal at its mouth and inaccessible to suitable vessels. The company

has a sawmill plant with a daily capacity of 30,000 feet, and a planing mill with a 5,000 daily capacity. It is also equipped for making boxes for its owners and the trade. The lumber is a high quality of spruce, for which there is said to be a good market. Fishing for the cannery is done wholly with seines. No traps have been in use. There was a complaint by Indians that seining had been done so as to partially obstruct the passage of fish into Ankow River, but as operations had ceased, for the time being, when I was there, it was not possible to verify the allegation. The officers of the company are: F. S. Stimson, president; E. E. Caine, vice-president; J. W. Clise, secretary and treasurer. The headquarters are at Seattle, Wash. The cannery superintendent is Ah Seung, a Chinaman. He is a stockholder in the concern and has full charge of cannery operations.

Klawak.—Arrived at the cannery of the North Pacific Trading and Packing Company at Klawak at 11 a. m., August 16. This plant was the first to pack salmon in Alaska in 1878. The first pack this season was made June 8. The run was very light until about July 1, and was at no time heavy. The machinery was kept in motion but three days each week. Cohoes were at this date just beginning to run freely. They usually continue to do so till November. All the fishermen employed by this company are native Indians. They are excellent workers, and next to Doctor Duncan's Metlakahtla people, are on a higher plane of civilization than any of the Alaska tribes. The village has a brass band, and a large proportion of the men belong to the Salvation Army. The women and children also are employed in the cannery. The outfit was for 30,000 cases and the guaranty 25,000. At this date 26,000 cases had been packed, of which 11,000 were red salmon. With the run of silver salmon to depend on, it was not doubted that a full pack would be made. The pack of 1903 was 22,640 cases.

The hatchery of this company, located at the lake about 6 miles distant from the cannery, was just beginning to strip. It has a capacity of 3,000,000 fry, and Mr. Swift, the superintendent, expected to turn out that number.

Taku Harbor.—Visited the cannery of the Pacific Cold Storage Company at this place, August 17, at 6.45 p. m. Although the season began late and no first-class run of fish was had all summer, a fair pack will be made; indeed a better one than was expected, for while the usual outfit was provided, the company had become rather discouraged with this location and contemplated moving the plant. The outfit was for 28,000 cases, with a guaranty of 8,500. At this date 23,000 cases had been secured, and Manager Keegan did not doubt he would get 26,000 cases in all. The red-fish pack numbered 8,500 cases. In addition to the fish canned, there has been put up 550 barrels of salted king salmon; also 76 boxes (250 pounds each) of frozen fish, mainly king salmon; 70 tons of dry-salted dog salmon, for the Japanese trade; 3½ tons of frozen trout and 5 tons frozen halibut; 5 tons of dry salted halibut and 50 barrels pickled halibut. It was intended to put up 70 tons more dry-salted dog salmon and the same quantity of salted halibut. The first catch was made about May 1, but fishing did not amount to much till July 1. King salmon for freezing were taken early in the season. Fishing would be continued till about September 10.

Pyramid Harbor.—Inspected the cannery at the Alaskan Packers' Association at Pyramid Harbor (Lynn Canal) at 12.10 p. m. August 19. The first pack was made here June 28, and fishing would be continued till September 30. There had been extremely bad weather nearly all the season, with such continuous violent storms that fishing was impossible much of the time. Seven boats were wrecked in a single day and one fisherman was drowned. Fishing in Chilkoot River was almost a total failure on account of the high winds and muddy condition of the water. This stream, which is usually good for about 60,000 red salmon, furnished only about 12,000 this season. The Indians have a peculiar method of catching fish in the rapids of this stream with gaff hooks and were powerless to do so successfully against the prevailing bad weather. The cannery was outfitted for 50,000 cases, with a guaranty of 33,000. It had now 23,000 cases, all red salmon. Superintendent Murray expected to make a pack of 40,000 cases, 10,000 of which would be cohoes. The pack of 1903 was 30,782 cases.

Chilkat Inlet.—Visited the cannery of the Alaska Fisheries Union at this point at 2 p. m. August 19. The cannery is but a few miles from Pyramid Harbor and is supplied from the same waters. Though it had had the same general unfavorable conditions to contend with there had been so considerable an enlargement of its facilities that the season would prove the best it ever had. It was outfitted for 60,000 cases with a guaranty of 40,000. At this date it had packed 40,300 cases of red salmon. The total pack was expected to reach 55,000 cases, of which about 12,000 would be cohoes. The pack of 1903 was 30,782 cases. The first pack was made June 22, and fishing would be kept up till September 30.

Haines.—Inspected the cannery of the Columbia Canning Company at this place at 5.15 p. m. August 19. The season had been very favorable, and the plant had made the best pack in its history. It is a small concern and in the past has put up a few thousand cases. It was outfitted for 25,000 cases, with a guaranty of 18,000. At this date it had 19,000 cases of red fish. It will make a pack of at least 24,000 cases, of which about 2,000 will be medium reds. In 1903 it put up 13,000 cases. The first catch was made on June 22, and it was intended to continue fishing until September 30. Having had a good deal of trouble with its white fishermen in the past, it made a very satisfactory change to Indians this year.

Funter Bay.—Visited the cannery of the Thlinket Trading and Packing Company at Funter Bay, August 21, at 3.10 p. m. The season had been a most favorable one. The cannery had been run sixteen hours per day throughout the season, fish being plentiful at all times, from the beginning of the run on June 15. Fish are all taken in traps, which are located in open water. Seining and gillnetting has not been successfully practiced at this fishery. The humpbacks, which were so profuse last year as to be something of a nuisance, were singularly scarce this season. Fishing was to be continued until about September 20, up to which time cohoes were expected to be plentiful. The outfit for the season was for 45,000 cases, with a guaranty of 30,000. At this date 34,000 cases, of which 19,000 were red salmon, had been packed. Manager Barron had no doubt of making a full pack. That of 1903 was 26,970 cases.

Sitkoh Bay.—Visited the cannery of the Pacific Packing and Navigation Company at this place August 22, at 10.15 a. m. The season

had been exceedingly good, although humpbacks were much scarcer than usual; the precious red salmon had been unusually plentiful in this region. A full pack had about been secured, and packing was nearly concluded. The first pack was made June 16, but red fish did not become abundant till about July 8. The cannery was outfitted for 41,500 cases, with a guaranty of 30,000. It had now 38,150 cases, of which 16,050 were red salmon. The full estimate would be reached. The pack of 1903 was 35,780. An innovation in the use of canning machinery was made by Superintendent Bell this year and proved a brilliant success. He attached two filling machines to one ordinary line of other machines, and was enabled thus to pack 1,600 cases in twelve hours, or about the limit for two full lines.

Pillar Bay.—Visited the cannery of the Pillar Bay Packing Company at 6.30 a. m. August 26. The concern had enjoyed a very satisfactory season, and had doubled the last season's pack of red salmon. Humpbacks had been slack, and cohoes were just beginning to run. A good catch of the latter was expected. At this date the reds had ceased. The first pack was made June 22, and it was intended to fish up to about September 20. The outfit was for 18,000 cases, with a guaranty of 12,000. At this date 15,000 cases have been secured, and there was no doubt the full estimate would be reached and probably considerable more if tin could be had. The pack of 1903 was 13,539 cases.

Tonka.—Visited the cannery of the Pacific Coast and Norway Packing Company at Tonka (Wrangell Narrows) at 4.40 p. m. August 26. The company's success had quite come up to expectations. It had outfitted for 32,000 cases, with a guaranty of 30,000. At this date it had packed 26,000 cases, of which 10,700 were red salmon. There was no doubt that a full pack would be secured. In 1903 it put up 14,569 cases. The first catch, which was king salmon, was made May 28. Reds began to run June 24 and were still running. Humpbacks were plentiful in some places, while there were none in others where they had been profuse last season. Cohoes were just beginning to run, with a promise of becoming abundant. More red salmon were packed this year than ever before in one season by this company. It was intended to cease packing about September 5.

Wrangell.—Reached the Point Highfield cannery of the Alaska Packers' Association at 11.10 a. m. August 27. A very satisfactory season had been experienced here, although fish had been unusually scarce in the Stikine River, which has ordinarily been good for 10,000 cases. This year less than 5,000 cases had been taken, and but 1,000 of these were reds, when usually 5,000 are had. Silver salmon, which are extra large in these waters, were not yet plentiful. The outfit was for 80,000 cases, with a guaranty of 42,000. At this date 78,000 cases, of which 8,000 were red fish, had been packed. The pack of 1903 was 70,634 cases. A few days would complete the anticipated pack. Fishing began June 25. Humpbacks had been generally plentiful, although some fishing grounds usually relied upon were a disappointment this year.

Lake Bay.—Visited the Lake Bay cannery of F. C. Barnes at 9 a. m., August 28. This is quite a small plant, which last year did not operate, and the meager results accomplished this season seem scarcely to have warranted resumption. The outfit was for 15,000 cases, with a guaranty of that number. The cannery had packed 7,000 cases, of

which 1,200 were red salmon. It was believed that in all 11,000 cases would be secured. Fish were very scarce early in the season, and the first pack was not made till August 1. It was intended to fish until September 20, silver salmon being now plentiful.

Loring.—Visited cannery of the Alaska Packers' Association at this place at 5.30 p. m., August 28. This plant is the largest pink-salmon cannery in Alaska, and in the past the catch of red salmon has been regarded as merely incidental. It was different this year, when 36,000 cases of the latter were put up. Nothing like this was ever known before. Humpbacks also were very plentiful. The outfit was for 110,000 cases, with a guaranty of 60,000. At this time the pack was 85,000 cases, and it was confidently expected the full estimate would be reached, as fish were still to be had in abundance. The first pack was made June 25, and it was expected that the cannery would continue in operation up to September 15.

A day was given to a visit to and inspection of the hatchery operated in connection with this cannery, situated at the third lake above Naha stream.

Extensive improvements and additions to this hatchery were begun in the summer of 1903, but as the salmon season of that year proved a comparative failure, the work was suspended until the spring of 1904, when it was resumed. The capacity of the hatchery proper was more than doubled by building alongside it another building, 32 by 260 feet, with an extension connecting the two. The heating and lighting plants are located in this extension, thus leaving the main buildings entirely clear for the handling of the eggs and fry. The capacity of the hatchery is now about 110,000,000 eggs in a season. A sawmill has also been erected, thus saving the long and expensive hauling of lumber from Loring to the hatchery. A flume was built from a point on the stream a short distance above the hatchery, and the water brought down in this is used by means of a water wheel to furnish power to operate the sawmill and also to run an electric-lighting plant which has been installed. As the water used in the hatchery has proven unsatisfactory on several occasions, it was decided to secure an improved supply from an entirely new source. Extended investigation brought to light a spring on the side of the mountain surrounding Patchen Lake, the one of the chain next above Heckman upon which the hatchery is located. A line of pipe 18,000 feet in length was laid from this spring to the hatchery, and as the spring is at an elevation of 150 feet above the latter a good pressure is obtained. A half mile of new tramway was also constructed to connect Heckman and Patchen lakes. Sixty persons were employed at the hatchery this season in making these improvements and in attending to the routine work. The cost of the new improvements has been approximately $25,000, and as a result the hatchery is now in a position to handle as many eggs as they are likely to be able to gather.

Metlakahtla.—Visited the cannery of the Metlakahtla Industrial Company at 11 a. m., August 31. This is a small concern, conducted by Rev. William Duncan as an adjunct of the industries of his Indian village. No white men are employed in the cannery or in fishing, which furnishes occupation, during the fishing season, to the entire working population. The outfit was for 20,000 cases. At this time there had been packed 15,500 cases, of which 8,500 were red salmon. It was expected the pack would reach 18,000. That of 1903 was 9,2[illegible]

cases. The first pack was made July 12. Humpbacks were late and scarce. It was intended to close about September 15.

This concluded the cruise of inspection, which embraced a visit by the agent to every cannery except two (as noted elsewhere), and necessitated the constant movement of the vessel. Not a day was lost, Sundays included, when the revenue cutter was not otherwise engaged. The canneries and salteries in southeastern Alaska, which were assigned to the assistant agent, were in addition repeatedly visited by him, as is shown in his subjoined report.

ADDITIONS TO LAST SEASON'S PACKING PLANTS.

The Yakutat and Southern Railroad Company, which, despite its misleading title, is not a railroad enterprise but a salmon-canning venture, built and put in operation this year a cannery at Yakutat Bay. Its railroad is a line of 9 miles long, running from the cannery site to the principal fishing ground. The organization of the company is given elsewhere.

The North Alaska Salmon Company added another cannery to its group of plants at Hallerville in the Koggiung region.

The Ketchikan cannery of the Fidalgo Island Canning Company resumed canning operations this season. Last year the plant was used by other parties as a saltery.

F. C. Barnes resumed canning this season at his Lake Bay cannery, which was idle last year.

The Muir Glacier Packing Company, which discontinued the business of dry salting king salmon at Ideal Cove last year, resumed operations on a small scale this season.

An addition to the number of plants at Bristol Bay (Bering Sea) was made by the removal of the Kell Bay cannery of the Union Packing Company to Kvichak River.

SUSPENSIONS OF CANNERIES AND SALTERIES.

The number of suspensions of canneries and salteries, as affecting the magnitude of former operations, was largely in excess of the additions. The canneries which put up packs last year and did not do so this season are:

The Hunters' Bay cannery of the Pacific Packing and Navigation Company.

The Yes Bay cannery of the Pacific Packing and Navigation Company.

The Taku Inlet cannery of the Pacific Packing and Navigation Company.

The Chilkoot cannery of the Pacific Packing and Navigation Company.

The Dundas Bay cannery of the Pacific Packing and Navigation Company.

The Kenai cannery of the Pacific Packing and Navigation Company.

The Kasaan Bay Company's cannery at Kasaan Bay.

The Shakan cannery of the Alaska Fish and Lumber Company. The latter put up a small pack of salted fish this season.

The aggregate pack of these canneries last year was 191,879 cases.

The Ekuk Point saltery of the Alaska Fish and Packing Company.

The Holbrook saltery of the Alaska Coast Fish and Packing Company.

The Kuiu Island saltery of the Beauclerc Salting Company.
The Snug Harbor saltery of the Seattle-Scandinavian Fish Company.
The South Arm saltery of Jacob Louth.
The Thorne Bay saltery of the United Fish Company.

ENFORCEMENT OF THE LAW.

It is gratifying to be able to report that the prevailing usages and methods of those engaged in salmon fishing in Alaska were found this season to be highly satisfactory. It is not to be understood that there was a total absence of infractions of the spirit as well as the letter of the enactment and regulations, but it is a pleasing fact that the steady improvement in this regard which has been witnessed from year to year gave no sign of retrogression in 1904. The few violations which came to the notice of the officials charged with the enforcement of the law did not embrace any that indicated a willful purpose to ignore it. There may have been some such at places where it might be possible to practice them with practical impunity, but it is not believed that even that is true in any important degree. It will be understood that with the very small force engaged in the work of surveillance, and the vast area of country over which fishing operations are engaged in, that it is quite impossible to constantly police every fishing ground. Indeed, with the circumscribed means of transportation at the command of the officials, there are many fisheries that may escape inspection one year or another. At such it would be possible to barricade streams. But that practice, which within a comparatively few years was the rule rather than the exception in southeastern Alaska, may be said to be substantially a thing of the past. The last that were discovered was the work of natives fishing at out of the way places on their own account. Even the Indians have become pretty well imbued with the idea that this sort of thing will get them into trouble, and as a rule they have ceased to offend. On the part of the responsible companies, and their white employees under their instructions, in a general way it would be scarcely fair to question their good faith. Outside of southeastern Alaska, which may be roughly described as that part of the district from Cross Sound to Portland Canal, the common physical conditions afford their own protection against disregard of the existing law. The wide streams, fierce currents, and tremendous tides fully protect Cook Inlet and the Bering Sea country.

Whatever the decimation of the salmon supply that is discoverable is to be explained by the continual growth of the forces and machinery employed in the industry, operating wholly within the legal restrictions, and not in the petty lawlessness that is occasionally exposed. This, even if undisturbed, would never appreciably affect the salmon supply. If there is a menace to the perpetuity of this great interest it is to be met by new safeguards that shall operate to husband the salmon supply as it now is, by fixing a limit to the output of the salmon packers and at the same time by establishing an efficient system of reinforcing nature with artificial propagation. I am convinced that thus far there is no evidence of irreparable injury to this second greatest of Alaskan resources, but am equally well assured that the present drain must inevitably be disastrous in the not remote future unless very soon largely curtailed, or the natural reproduction be augmented on a liberal scale.

The following complaint, which came to me from the honorable Commissioner of Fisheries, was referred to the assistant agent for investigation. His report is given herewith:

JUNEAU, ALASKA, *May 2, 1904.*

Hon. GEORGE M. BOWERS,
United States Fish Commissioner, Washington, D. C.

SIR: I arrived at Juneau to-day, coming here at the request of my people to see the fishing inspectors or agents, in order to have them visit our place at Pleasant Bay, near Mole Harbor, Grass Peninsula, Alaska.

Last season a company represented by one Fred Galvas fished in our locality, and with dragnets, seines, and other gear practically barricaded the stream up which the dog and humpbacks run, and upon which our people here principally depend for their food supply. Last season through their agency thousands of such fish were uselessly destroyed. There are several small lakes back of this stream, but there are not many red fish or sockeyes visiting it. But our people have long resided thereabout and depended upon the fish of the small Pleasant Bay, such as the king salmon that follows the herring and the dog or chum and humpback salmon for their supply.

Now this man Galvas is preparing to put in a trap in these waters, and has already begun putting up a warehouse, and will build a wharf in close proximity to my house and my old father's premises. I wish that you would cause your agents to look into this matter, and as I will be in Pleasant Bay from now until about July 4, I shall be pleased to show him personally what our people claim in these respects and what protection we need. Please write to Frank Mason (native), care of p. o. box 194, Juneau, Alaska.

DEPARTMENT OF COMMERCE AND LABOR,
DIVISION OF ALASKAN FISHERIES,
OFFICE OF ASSISTANT AGENT,
Port of Ketchikan, Alaska, September 4, 1904.

Mr. H. M. KUTCHIN,
Agent at Alaska Salmon Fisheries.

DEAR SIR: Your communication of August 25, also copy of complaint from Frank Mason, of Juneau, in regard to the fishery at Pleasant Bay, was received.

Mr. F. A. J. Galvas, of Douglas, is manager of the Alaska Fish and Development Company, which formerly operated at Mole Harbor, but removed this year to Pleasant Bay. As the company had suspended salmon fishing before the complaint reached me, I did not visit the bay, which is quite difficult of access. I understand they have a trap in operation and are slowly erecting buildings, wharf, etc. They have done little with salmon this season, most of their attention having been devoted to halibut fishing, while they expect to engage in herring salting this fall.

Very respectfully,

JOHN N. COBB,
Assistant Agent at Alaska Salmon Fisheries.

A further investigation of the complaint will be made the coming season.

The following complaint was received by the hand of Lieutenant Emmons, at Sitka, to whom it had been given for presentation to the authorities:

YAKUTAT, ALASKA, *August 1, 1904.*

TO UNITED STATES GOVERNMENT:

We, the undersigned Indians of Yakutat, Alaska, do hereby send to United States Government a strong protest against unlawful fishing in Seatuck River, etc. We have seen the rivers dammed right across with seines and so by hindering the salmon to run up the river and spawn. We are dependent on fish for our living in the future, and if they fish like the Yakutat and Southern Railway Company have done this summer all the salmon in the rivers, lakes, and inlets will be gone and destroyed. Thus we send in our protest against the Yakutat and Southern Railway Company for unlawful fishing and damming rivers, and fishing on Saturdays and Sundays.

(Signed) CHIEF GEORGE.
D. S. BENSON.

After consultation with Governor Brady and United States Commissioner DeGroff in regard to a prosecution, I dispatched the following reply to the complainants:

DEPARTMENT OF COMMERCE AND LABOR,
DIVISION OF ALASKAN FISHERIES,
Sitka, Alaska, August 25, 1904.

CHIEF GEORGE and D. S. BENSON,
Yakutat, Alaska.

GENTLEMEN: Your letter of August 1, addressed to the United States Government and handed to me by Lieutenant Emmons, alleging that certain persons are violating the laws made for the preservation of the Alaska salmon fisheries, has been made the subject of consultations by me with Governor Brady and United States Commissioner DeGroff.

As the special agent of the Department of Commerce and Labor it is my duty to see that these laws are enforced, and it is as well my especial desire to encourage all private citizens in the laudable effort to contribute to such enforcement. Regarding your communication mentioned as of importance in that direction, I have to say:

I was in Yakutat on August 13, and talked with Mr. Robinson, the general manager of the Yakutat and Southern Railway Company in relation to the faithful observance of the fishing law and regulations. He assured me that it was his wish and purpose to comply with every requirement in the premises. If the people employed by his company have failed to carry out his expressed views, it is desirable that they should be detected and punished as the law provides.

To accomplish this, however, it is necessary that definite evidence of violations of law should be secured and presented to the proper authorities. A complaint should be formulated and presented to the grand jury, stating specific acts with dates and the names of the persons committing them, and witnesses who are competent to prove the allegations should be secured and hold themselves in readiness to appear before the said body and give evidence in the case. If possible white men as well as natives should be among the number of said witnesses in order to disarm possible prejudice.

If a case can be made and the allegations in your complaint are proven there is every reason to believe that the law will be strictly enforced and guilty persons suitably punished.

At the date of my visit to Yakutat fishing had been suspended for the time being and it was therefore impossible for me to discover the conditions you complain of. Had I done so the matter would have received prompt attention without your suggestion. At this time it is impracticable for me to revisit Yakutat to investigate the case, and it is my hope that you will pursue the matter and bring it to a just and satisfactory conclusion.

Governor Brady and Judge DeGroff will both, I am sure, give you all needed advice and assistance that you may require.

Respectfully,

HOWARD M. KUTCHIN,
Special Agent, etc.

Certain Chilkoot River Indians lodged a complaint with United States Commissioner Stout, at Haines, that fishermen from the canneries had been taking fish with nets within the prescribed limit at the mouth of Chilkoot River. The case was referred to the United States district attorney, and after the arrest of several boat crews implicated, all except two natives were discharged for want of sufficient evidence to hold the others for trial.

Sometime during the year 1903 an application was received from certain parties requesting permission to erect a salmon hatchery plant on Auk stream. The application was denied for the reason that the persons interested in the proposed hatchery were not engaged in the business of packing salmon and were not entitled to the privilege of the sole use of a stream for hatchery purposes, which might otherwise have been granted by the Secretary within the purview of the law for the encouragement of artificial propagation. From all evidence at hand it appeared that the application was simply in furtherance of a speculative enterprise and would impair the rights of other persons.

Despite the instructions to the applicants that all obstruction of Auk stream for the purpose declared, or otherwise, would be in violation of law, it appears that the work has gone forward nevertheless. On a visit of the assistant agent to the locality in August last, he discovered that "A dam, with fishway, has been built on the stream about 100 yards below Auk Lake, and a pool for the reception of young fry is to be built a little later on. As none of the parties interested has any connection with the salmon-packing business, I was anxious to know why they had built a hatchery (a building 20 by 24, with space for 70 trays) and on inquiry found that they expected to either get an exclusive right to fish ascending the stream, to sell the hatchery to the Government, or to sell fry to canneries and salteries which are not at present operating hatcheries as required by law." The case seems to be a willful disregard of law and the special instructions received from this Department. Inasmuch, however, as the fishing season was about closed at the date when the facts came to the knowledge of the agent, and it not being apparent that any serious injury to the fisheries or infringement of public rights had thus far ensued, no formal complaint was filed with the prosecuting officer. Measures have been taken to correct the evil before the opening of the next fishing season.

The Water Company of Ketchikan had partially obstructed Ketchikan Creek, a humpbacked salmon stream, in the interest of its water supply. The company was informed that its act was in violation of law, and it was agreed that the obstruction should be promptly removed.

There was an intimation that some seining of humpbacked salmon had been done within the hatchery reserve waters of Naha stream, either for the Loring cannery or by outside parties. The act was technically unlawful, as fishing within the stream for commercial purposes by any person is unquestionably forbidden by the terms of the reservation order. The intent of the order is, of course, to preserve red salmon for propagating purposes, but it would not do to make distinctions in such a case. Any violation that may have occurred was undoubtedly due to a misconception of the scope of the reservation order, and steps have been taken to prevent a recurrence of the abuse.

A complaint was received late in the year that obstructions had been placed by a mining concern in the north fork of the Yukon River, which operated to prevent the ascent of salmon and to work a consequent hardship upon persons who depended upon the fish supply for food. As the region where the alleged violation occurred is practically out of the reach of the officials of the Department, the case was referred to the Department of Justice.

ARTIFICIAL PROPAGATION.

The hatchery situation in Alaska is in anything but a satisfactory condition. The regulations for the preservation of the salmon fisheries prescribe: "Each person, company, or corporation taking salmon in Alaskan waters shall establish and conduct, at or near the fisheries operated by him or them, a suitable artificial propagating plant or hatchery, and shall produce yearly and place in the natural spawning waters of each fishery so operated red salmon fry in such numbers as shall be equal to at least ten times the number of salmon of all varieties taken from the said fisheries by or for him or them during the

preceding fishing season." Thus the reenforcement and perpetuation of the fisheries is committed to the hands of private parties who can scarcely be expected to invariably possess the public spirit, financial resources, and expert knowledge necessary to the successful prosecution of fish breeding. With the large and opulent concerns, it is true, it has been demonstrated that the work can, in most particulars, be carried on as well as it would be even in charge of the trained experts of the Bureau of Fisheries. Whatever weakness there is in these exceptional cases, where the regulation is even partially observed, is to be found in the fact that the required ratio of production is far from realized and the distribution of the fry when liberated from the hatcheries makes no pretense of meeting the exaction of the Department that it shall be placed "in the natural spawning waters of each fishery so operated." On the contrary, the single company that makes a bona fide attempt to propagate salmon in Alaska, has two first-class hatchery plants, and these produce considerable less than 20 per cent of the fry called for; and instead of being liberated in proper proportion in the multitudinous streams and waters fished by the company, the product of the hatcheries is all released in the two streams where the plants are situated, which are propagating reservations and not fisheries operated for the support of the canneries. In a general way it is to be presumed, of course, that the turning out of the young fish will inure to the enrichment of all the closely adjacent waters, despite the common theory that salmon unerringly return to the stream where they are hatched. This one concern (the Alaska Packers' Association) with enlarged facilities for hatching salmon and a suitably equipped vessel for the transportation of the fry, could undoubtedly conform to the regulation in a thoroughly satisfactory manner without feeling the expense burdensome. It is now employing expert labor and has proven in the past its ability to successfully cope with the scientific problems involved. But it is the only concern now operating in the district competent to meet the demand without suffering a hardship, and it is almost the only one that has ever made any show of real earnestness in the premises and accomplished results worthy of respect.

Except the Alaska Packers' Association, with its 23 plants, dotting the coast from Loring to Bristol Bay (Bering Sea), there is but one concern operating as many as five canneries, and that one is now insolvent and in the courts in liquidation. The next in size has three canneries, and from this they range downward to the small salter putting up perhaps less than 100 barrels. The propagation of fish fry is a business apart, and the operation of a hatchery of even small dimensions can not be a mere adjunct of another line of industry. It is exacting and costly. Probably it is within bounds to estimate that a fit plant of the smallest capacity would require an initial investment of $10,000 at least, and an annual expenditure of not less than $2,500; while an establishment capable of turning out 5,000,000 to 10,000,000 fry per year means the investment and regular disbursement of two or three times as much. There are more than a dozen separate canneries that produce less than 30,000 cases of salmon each season, and the major part of these put up pink fish that afford a very narrow margin of profit. Under the regulation such plants would have to produce 3,000,000 or 4,000,000 fry annually, which would require a hatchery plant that would cost not less than $5,000 annually to operate. The burden would be heavier than the business could stand.

In addition to the smaller canneries there are a dozen or more salters who do not average a pack of 500 barrels and who do well to net $1 per barrel profit. To such the enforcement of the hatchery regulation is simply to drive them out of business, which, in many cases, helps them to eke out a not too luxurious livelihood.

While the inception of the regulation was based upon the probability that it would tend to give a much-needed impetus to propagating effort among such packers as could afford to engage in the work, and thus contribute in some degree to the preservation of the fisheries, experience proves that it is not to be depended upon at the best and is totally impossible of uniform enforcement without in a large measure destroying the business and inflicting unmerited injury upon a hard working and worthy class of people. It would be particularly severe upon those who do not expect more than a portion of their living expenses from their fishing efforts.

On the other hand, it can not be questioned that nature must be assisted in the maintenance of the Alaska salmon fisheries. This can be done, and well and surely done, by the operation of a sufficient number of first-class hatcheries by the Government. There should be at least two in southeastern Alaska, one or more in central Alaska, and two in Bering Sea. The original expense could be most liberally met with the funds that have already been collected as a tax upon the salmon-packing business. The cost of maintenance could be provided for by a charge upon each person interested for his ratio of fry and the proper planting of the same. The expense to the packer could not fail to be much lighter than for him to do this for himself, the large and small alike would find the pecuniary burden not oppressive and in fair proportion to his operations, and the work would be accomplished unfailingly and scientifically. Of course there could be no objection to permitting a concern like the Alaska Packers' Association, with successful hatchery plants already in operation and financially capable of enlarging its output of fry to the full ratio required, or any packer competent and willing to produce salmon fry on his own account, to do so if desired.

All my observations since the regulation was promulgated confirm me in the conviction that it is impossible of uniform enforcement, and would be so even were it not, for the reasons here given, oppressive and in many instances fatal to persons subject to its exactions. Unskillful methods, scarcity of suitable sites and pure water supply, difficulty of transporting fry, and the apparent nonexistence of any penalty under the law for deliberate disregard of the requirement, must inevitably operate to defeat its intended scope and full effect.

Such operations and the results secured by the few concerns that have made any attempts in this direction are reported herewith:

PACIFIC PACKING AND NAVIGATION COMPANY,
Bellingham, Wash., December 31, 1904.

DEPARTMENT OF COMMERCE AND LABOR,
DIVISION OF ALASKAN FISHERIES,
Washington, D. C.

GENTLEMEN: Replying to request of the 12th instant for report of hatching operations during 1904, the only hatchery operated at Hetta Bay took 5,127,500 eggs, and we believe they were all hatched. This was nearly 2,000,000 more than previous season. The eggs were all taken and hatched between August 17, 1903, and June 30, 1904. No eggs were taken this fall.

Yours, very truly,

RECEIVERS PACIFIC PACKING AND NAVIGATION COMPANY.

NORTH PACIFIC TRADING AND PACKING COMPANY,
San Francisco, December 19, 1904.

Mr. H. M. KUTCHIN, *Washington, D. C.*

DEAR SIR: Our hatchery at Klawak for season of 1904 will turn in about 2,000,000 salmon fry, as nearly as I can estimate. At last report from there the eggs had commenced hatching out and eggs in hatchery were all in fine condition. Owing to the heavy storms in September, that washed out our fences and dams, we did not fill all our baskets, though there was a very large run of salmon in the lake.

Yours, very truly,

H. F. SWIFT, *Superintendent.*

ALASKA PACKERS' ASSOCIATION,
San Francisco, December 23, 1904.

Mr. H. M. KUTCHIN,
Agent of Salmon Fisheries of Alaska,
Department of Commerce and Labor, Washington, D. C.

DEAR SIR: The association begs to transmit herewith, for the information of the Department, the data relating to the operations of their hatchery plants in Alaska during the season of 1904.

In the report of the special agent for 1903 it is noticed with surprise that employees of the Loring cannery of this organization were accused of obstructing the Quadra stream, and thereby causing a failure of the Quadra hatchery of the Pacific Packing and Navigation Company. The instructions of the association to all of its employees are to obey the law absolutely, and in order to fix the offense, if any, the matter was investigated and it was found that the character of the fishing in the vicinity of Quadra was within the limits of the law and the instructions issued by the Department. A copy of a letter from Mr. J. R. Heckman, the superintendent of the association's Loring cannery, is appended marked "A," and it is requested that this reply be given equal publicity with the charge.

As previously informed, the Karluk hatchery at Karluk and the Fortmann hatchery at Naha Lakes have all been greatly increased in capacity and they are in full running order and active operation. The Karluk hatchery now has a capacity of 65,000,000 eggs and the Fortmann hatchery 106,000,000 eggs.

One of the most marked improvements made during the season in the plants, aside from the hatchery extension, was in the Fortmann hatchery where the spring formerly supplying the water became unreliable by occasionally running mud, and necessitated seeking a new source. A spring was found bordering the slopes of the Fourth or Patching Lake, which upon trial proved to be of most excellent quality. It was learned by observation that it flowed 300 gallons a minute of pure water, free from fungus, at a temperature of 40° F. in the depth of winter when the temperature of the air was 10° below zero, and not rising above 43° during the summer. A test was made of the water with a basket of eggs, which proved very satisfactory. This spring is elevated 134 feet above the hatchery, distant 3½ miles, and a thorough reconnoissance indicated that it was feasible to connect this water, but very expensive. As the association desired to make this hatchery a success and fully comply with the Government requirements, in spite of the great expense attending it, instructions were issued to connect the spring water, which was accomplished during the present season and the water turned in for the eggs taken this year.

It may be of interest to know that preliminary to laying the pipe, it was necessary to construct a tramway 5,524 feet long and 4 feet wide for the transportation of material. Eighteen thousand four hundred and fifty feet of 8-inch and 6-inch wood pipe was used. Two thousand feet of trestle, some of it 30 feet high, was erected to carry the boxing in which the pipe was laid, embedded in earth and moss, around rocky bluffs and projections. In crossing Naha River, a bridge and trestle 300 feet long was constructed and the divide between Patching and Heckman lakes was passed, partly by a tunnel and partly by a cut 22 feet deep.

In order to appreciate the efforts of the Alaska Packers' Association, not only to comply with the wishes of the Government but to develop the salmon fisheries of Alaska, it may be said that about $250,000 has been expended for hatchery work since 1896, of which amount nearly $200,000 was made since 1901. The results of this outlay have been most gratifying, as the output for 1904 shows 110,000,000 salmon eggs in the baskets of the association hatchery. These plants are without doubt the largest of the kind in the world, directed by the highest skill that can be obtained, and cared for by the best attendants, who in the unbroken forests of Alaska during a rigorous winter are well housed, well fed, and well cared for.

The Alaska Packers' Association, with all due respect, believes that this year's result surpasses the salmon hatchery work of all the hatcheries of any one State or of the United States with its combined salmon hatcheries on the Atlantic and Pacific coasts. It may be stated, in this connection, that the States bordering the Pacific tax the fisheries, but return the tax doubly in hatchery work, in which they are assisted by the United States Government, which receives no return except the satisfaction of aiding an important commercial industry of its citizens. On the other hand, the General Government levies a tax on the salmon fisheries of Alaska amounting yearly from $75,000 to $100,000 and has never yet expended one cent for the practical extension or development of the Alaska salmon. This seems doubly unjust when it is known that the Bureau of Fisheries, established and wholly maintained without special tax by the General Government, assists the commercial interest of the States by producing for its waters yearly about fifteen thousand million eggs and fry of all species of fish.

The association is justly proud of the success attending its work, and believes that private hatcheries administered with an honest purpose will give better returns for less expenditure of money than Government hatcheries, but it also holds that private organizations undertaking this work should have some substantial recompense, and should have a prior right to its own product the same as the stock raiser or the tiller of the soil.

The tax on the Alaska product is unjust. It is the only fishery taxed by the General Government, and it receives absolutely no return. As it is believed the tax was a war measure for the increase of revenue during the Spanish war, it should be promptly repealed, as all other measures of this kind have long since been stricken from the statute books.

Yours, very truly,

ALASKA PACKERS' ASSOCIATION,
C. W. DORR, *Secretary.*

LORING, ALASKA, *October 5, 1904.*

ALASKA PACKERS' ASSOCIATION,
308 Market Street, San Francisco, Cal.

GENTLEMEN: Referring to the report of Special Agent Howard M. Kutchin on the salmon fisheries of Alaska for 1903, it is noticed on pages 23 and 24 that a serious reflection is cast upon the Loring cannery of the association, of which I am superintendent. In the published letter from the Pacific Packing and Navigation Company, under date of November 3, 1903, the reason assigned for not operating the Quadra hatchery of that company is given as follows: "Mr. Kittlesby (the superintendent of the Quadra hatchery) informs me that the Loring people obstructed Quadra stream to such an extent that no fish went into the lake, and he was unable to secure a greater number of eggs than stated in his report (600,000 eggs)." In the published report of Mr. Kittlesby, under date of November 3, 1903, he stated as an excuse for his failure, "The cause of this is the fishing at the mouth of the river." The facts of the case are briefly as follows: The approach to Quadra stream, at the time mentioned in the quoted reports, was fished by three canneries, the Wales Island Packing Company, using five purse seines; the Loring cannery of the association, using six purse seines, and the Quadra cannery of the Pacific Packing and Navigation Company, the complainant, using six purse seines. The fishing was carried on outside of the immediate approach to the stream, for it is clearly impracticable to use a purse seine near the mouth. The fishing appliance of the Pacific Packing and Navigation Company, the complainants, were as numerous as those of any other company, and if there was any obstruction, of which I have absolutely no knowledge, the Pacific Packing and Navigation Company was equally culpable.

It is well known to those acquainted with the situation at the time referred to in the reports that the representative of the Pacific Packing and Navigation Company made no decided effort and did not wish to comply with the hatchery order, and he, therefore, was obliged to submit some excuse for his failure.

Yours, very respectfully,

J. R. HECKMAN,
Superintendent Loring Cannery, Alaska Packers' Association.

FORTMANN HATCHERY OF THE ALASKA PACKERS' ASSOCIATION, LOCATED ON NAHA LAKES, REVILLAGIGEDO ISLAND, ALASKA, SEASON 1904.

NUMBER OF SALMON EGGS TAKEN DURING THE SEASON.

Hatchery No. 1:		
Red salmon, August 23 to October 15	39,999,000	
Hatchery No. 2:		
Red salmon, October 15 to November 15	23,121,000	
Total red salmon eggs		63,120,000
Hatchery No. 2:		
Cohoes, October 17 to November 15	1,890,000	
Total salmon eggs		65,010,000
Estimate of fry for the season		60,000,000
Stock salmon (red), females	25,355	
Stock salmon (red), males	24,664	
Total		50,019
Stock salmon (cohoes), females	513	
Stock salmon (cohoes), males	269	
Total		782

Comparative statement of red salmon eggs taken at Fortmann hatchery.

1901	11,460,000	1903	16,536,000
1902	40,050,000	1904	65,010,000

About 20,000,000 more eggs would have been taken had not unusual high water during the time when fish were running at the best prevented seining in the river. This necessitated taking the stock fish in the lake and permitted many ripe fish to ascend to the natural spawning grounds.

KARLUK HATCHERY OF THE ALASKA PACKERS' ASSOCIATION, LOCATED AT THE MOUTH OF KARLUK RIVER, KODIAK ISLAND, ALASKA, SEASON 1904.

EGGS TAKEN.

Number of red salmon eggs taken during the season	45,500,000
Estimate of fry for the season	41,000,000
Number of female salmon spawned	15,061
Number of eggs to the fish	3,021

Comparative statement of red salmon eggs taken at Karluk hatchery.

1896	3,200,000	1901	32,800,000
1897	7,500,000	1902	20,553,000
1898	5,500,000	1903	28,113,000
1899	6,000,000	1904	45,500,000
1900	19,334,000		

The large increase this year at Karluk is due to improved facilities and exceptionally good weather.

The superintendent reports that at least 60,000,000 eggs would have been secured had not a break in the corral permitted about 35,000 stock fish to escape.

The number of fry released during the season hatched from the eggs taken during 1903 was upward of 22,000,000, or about 80 per cent.

Mr. John C. Callbreath, who has for many years operated a hatchery on Etolin Island, and produced from 4,000,000 to 5,000,000 fry annually, makes no report this season. The hatchery, however, is known to have been in operation and it was expected that the output would not fall materially below that of former years.

The estimated aggregate output of fry for the season of 1904 is herewith shown to be about 110,000,000, an increase of more than 40,000,000 over that of 1903. On the basis of ten times the number of salmon packed this is about 170,288,410 short of the number called for by the regulation.

SUMMARY OF STATISTICAL TABLES.

The total number of corporations, firms, and individuals engaged in packing and salting salmon in Alaska during the season of 1904 was 40, the same as the preceding year. These operated 55 canneries and 18 salteries, as against 64 canneries and the same number of salteries in 1903. New plants this year went into operation at Yakutat Bay and Koggiung, and several that suspended in 1903 resumed this season. A considerable number of salteries made their first pack and were offset by an equal number of suspensions.

The aggregate capital stock of the industry is $13,943,500, as against $25,531,000 in 1903. This noticeable shrinkage is due almost wholly to a readjustment of the reported capital stock of the Pacific Packing and Navigation Company, which is cut down from $12,500,000 to $1,000,000 on account of the fact that the corporation is insolvent and in process of liquidation. Much of the property has been disposed of, and it is understood that that remaining unsold will not exceed in value the figures here given.

The total valuation of plants is fixed at $5,472,100, about the same as last year. In all cases, except that of the Alaska Packers' Association, the valuations are furnished by the companies. In the latter instance the figures are estimated, and are believed to be extremely conservative. There is a lack of uniformity in the valuations, as in some cases the amount reported includes the shipping connected with the business and in others evidently not. Inasmuch, however, as there are instances where the valuation is believed to be excessive it is probable that in the aggregate the sum is fairly representative of the actual investment.

The Alaska Packers' Association overshadows all other concerns in the magnitude of its operations, with a capital stock of $5,000,000 and 23 plants out of a total of 55. The Pacific Packing and Navigation Company comes next with 7 plants. It operated 13 in 1903 and 18 in 1902. The North Alaska Salmon Company operated 5 plants this season, one more than last year. All other concerns in the list operate single canneries.

The season's pack is 1,953,746 cases of canned salmon, 15,407 barrels and half barrels of salted, and 1,008,239 pounds of dry salted, equivalent to 2,012,728 cases. The output of 1903 was 2,274,137 cases and 31,588 barrels, amounting to 2,361,782 cases. The falling off for the season of 1904 is 320,391 cases and 16,181 barrels, showing an aggregate loss on the combined product (including frozen and dry-salted fish) of 349,054 cases, or about 15 per cent. This is just about the same percentage of loss of 1903 from the pack of 1902, and the two years together show a decrease of more than 25 per cent from the pack

of 1901. The year's product of the several grades of fish is divided approximately as follows: Red salmon, 1,595,910 cases; silver, 67,960 cases; pinks, 286,150 cases. It will be observed that nearly 75 per cent of the season's loss is in the cheaper grades. In many localities there were conspicuous gains of red salmon, and particularly in southeastern Alaska the run of this variety was almost unexampled. The total weight of canned and salted salmon is 97,713,744 pounds.

With the exception of the Puget Sound region all salmon fisheries outside of Alaska had a prosperous season, handsome gains having been made on the Columbia River and the salmon streams of Washington, Oregon, and California. This is quite contrary to the outlook about the middle of the summer, but it transpired that the later runs were profuse and packing was continued for a longer period than usual. The Puget Sound canneries suffered severely, meeting a loss from last year of nearly 50 per cent. The product of the several regions is as follows:

Fishing regions.	1903.	1904.
	Cases.	*Cases.*
British Columbia	473,674	465,894
Puget Sound	455,393	276,920
Columbia River	333,158	423,073
Washington, Oregon, and California rivers	98,618	184,669
Total	1,360,843	1,350,556
Alaska pack	2,361,782	2,035,703
Grand total	3,722,625	3,386,259

There is shown a loss on the world's total pack of 336,366 cases, wholly accounted for by the decrease in Alaska.

While the Alaska fisheries that show gains outnumber those where losses were experienced, the volume of loss at some places was so heavy as to amount to almost total failure. Bristol Bay (Bering Sea), where the pack has uniformly been increased from year to year, this season suffered very heavily. In point of fact, more than the entire loss in Alaska is found to have occurred there. The pack of Bristol Bay is 351,725 cases less than last year. The material changes at the several fisheries were as follows:

Fisheries and operating companies.	Gains.	Losses.
Nushagak River:	*Cases.*	*Cases.*
Alaska Packers' Association	.....	27,886
Pacific Packing and Navigation Co	.....	9,211
North Alaska Salmon Co	.....	1,499
Alaska Fishermen's Packing Co	.....	5,248
Ugashik River:		
Alaska Packers' Association	.....	43,218
Bristol Packing Co	.....	11,000
Red Salmon Canning Co	.....	23,461
Naknek River:		
Alaska Packers' Association	.....	62,626
Naknek Packing Co	.....	15,600
Koggiung:		
Alaska Packers' Association	.....	78,102
Northwestern Packing Co	.....	2,400
Kvichak River:		
North Alaska Salmon Co	.....	16,620
Union Packing Co	.....	17,006
Egagak:		
Alaska Packers' Association	.....	24,660
North Alaska Salmon Co	.....	18,188
Chignik Bay:		
Alaska Packers' Association	18,682	.....
Pacific Packing and Navigation Co	6,943	.....

Fisheries and operating companies.	Gains.	Losses.
	Cases.	Cases.
Alitak Bay:		
Alaska Packers' Association	23,267	
Karluk:		
Alaska Packers' Association	42,388	
Uyak Bay:		
Pacific Packing and Navigation Co	10,024	
Lynn Canal:		
Alaska Packers' Association		6,303
Columbia Canning Co	4,999	
Alaska Fisheries Union	23,515	
Wrangell:		
Alaska Packers' Association	9,888	
Pacific Coast and Norway Packing Co	17,570	
Loring, Alaska Packers' Association	2,101	
Sitkoh Bay, Pacific Packing and Navigation Co	4,167	
Klawak, North Pacific Trading and Packing Co	5,837	
Ketchikan, Fidalgo Island Canning Co. (resumed)	31,008	
Metlakahtla, Metlakahtla Industrial Co	7,650	
Funter Bay, Thlinket Trading and Packing Co	13,740	
Point Ellis, Pillar Bay Packing Co	8,201	
Yakutat Bay, Yakutat and Southern Railway Co. (new)	24,849	
Lake Bay, F. C. Barnes (resumed)	10,138	
Taku Harbor, Pacific Cold Storage Co		

The total value of the Alaskan output, at the figures furnished by the packers in all cases but one, is $7,735,782. In that case the amount was calculated on the basis of quotations obtaining at the close of the year. The figures show a loss of $2,553,853 from the aggregate market value of the pack for 1903. Allowing for the shortage in the pack there would still be a difference of something like a million dollars to be accounted for, which is probably due to lower prices than were received last season. Of the total market value the Alaska Packers' Association, with 23 canneries, is credited (on estimated figures) with $4,508,624; the Pacific Packing and Navigation Company, with 7 canneries, makes a gross earning of $992,229; the North Alaska Salmon Company, with 5 canneries, shows $321,468 as its proportion. Other packers, with single canneries and salteries, run from $219,039 to $400.

The aggregate number of salmon of all varieties taken is 28,028,841, against 34,615,813 in 1903—a loss of 6,586,990. The catch is separated as follows: King, 174,528; red, 20,746,887; silver, 747,563; humpback, 5,984,554; dog, 375,309. In 1903 the numbers of the different varieties were: King, 202,292; red, 23,906,976; silver, 1,161,004; humpback and dog, 9,345,541. This shows a loss of 27,764 king; 3,160,089 red; 413,441 silver; 2,985,678 pinks. The major part of the loss in the pack is demonstrated to be in the cheaper grades of fish.

The total number of hands employed was 12,867, made up of 5,645 whites, 2,002 natives, 3,499 Chinese, and 1,721 Japanese, being a slight increase over last year. The introduction of Japanese labor is practically new this year, and was rendered necessary by the difficulty of procuring enough Chinamen to man the canneries. A considerable number of Filipinos and Porto Ricans were also employed in work heretofore done by Chinese.

The total disbursement for wages is $2,890,934, against $2,927,745 last season.

The tax payable on the product, at 4 cents per case and 10 cents per barrel, is $79,690.54, against $92,628.09 in 1903.

The shipping and small boats employed in the fishing are 123 steamers and launches, 56 sailing vessels, and 2,248 lighters and boats.

The gear used comprises 67 stationary traps, 218 seines, and 1,635 gill nets.

SCHEDULE A.—*Packing companies and plants.*

Name of corporation, firm, or individual.	Designation of plant.	Home office.	Capital stock.	Valuation of plant.
Alaska Packers' Association	Bristol Bay Canning Co Alaska Packing Co Arctic Packing Co Clarks Point Cannery (2) Arctic Packing Co Guardian Cannery Ugashik Fishing Station Bering Sea Cannery Point Roberts Packing Co (2) Horseshoe Fishing and Mining Co Coffee Creek Cannery Egegak Fishing Station Chignik Bay Packing Co Alitak Packing Co Karluk Packing Co Alaska Improvement Co Arctic Fishing Co Pacific Packing Co Pyramid Harbor Packing Co Glacier Packing Co Alaska Salmon and Fur Co	**130 Market street, San Francisco, Cal**	**$5,000,000**	**$8,000,000**
Pacific Packing and Navigation Co	Orca Cannery Chignik Canneries (2) Uyak Canneries (2) Nushagak Cannery Sitkoh Bay Cannery	**Bellingham, Wash**	**3,000,000**	**465,000**
North Alaska Salmon Co	Kvichak River Canneries (3) Egegak Cannery Nushagak River Cannery	**122 Davis street, San Francisco, Cal**	**1,000,000**	**471,600**
Naknek Packing Co	Naknek Canneries (2)	5 Market street, San Francisco, Cal	100,000	100,000
Bristol Packing Co	Bristol Bay Cannery	do	120,000	50,000
Northwestern Packing Co	Koggiung Saltery	do	120,000	60,000
North Pacific Trading and Packing Co	Klawak Cannery	3 California street, San Francisco, Cal	100,000	65,000
Alaska Fishermen's Packing Co	Nushagak Cannery	Astoria, Oreg	200,000	100,000
Fidalgo Island Canning Co	Ketchikan Cannery	Anacortes, Wash	50,000	40,000
Pacific Cold Storage Co	Taku Harbor Cannery	Tacoma, Wash	1,000,000	100,000
Red Salmon Canning Co	Ugashik Cannery	32 California street, San Francisco, Cal	200,000	125,000
Columbia River Packers' Association	Nushagak Cannery	Astoria, Oreg	1,725,000	200,000
Pacific Coast and Norway Packing Co	Tonka Cannery	743 Washington avenue, Minneapolis, Minn	125,000	70,000
Union Packing Co	Kvichak River Cannery	Tacoma, Wash	100,000	28,000
Metlakahtla Industrial Co	Metlakahtla Cannery	Metlakahtla, Alaska	60,000	15,000
Alaska-Portland Packing Association	Nushagak River Cannery	302 Chamber of Commerce, Portland, Oreg	100,000	50,000
Alaska Salmon Co	Wood River Cannery	3 Stewart street, San Francisco, Cal	200,000	125,000
Columbia Canning Co	Chilkoot Cannery	Bellingham, Wash	26,000	30,000
Thlinket Packing and Trading Co	Funter Bay Cannery	Portland, Oreg	80,000	150,000

SCHEDULE A.—*Packing companies and plants*—Continued.

Name of corporation, firm, or individual.	Designation of plant.	Home office.	Capital stock.	Valuation of plant.
Alaska Fisheries Union	Chilkat Cannery	Seattle, Wash	$100,000	$60,000
Pillar Bay Packing Co	Point Ellis Cannery	Bellingham, Wash	75,000	28,000
Yakutat and Southern Railway Co	Yakutat Cannery	Seattle, Wash	150,000	30,000
F. C. Barnes	Lake Bay Cannery	Portland, Oreg	100,000	25,000
Alaska Fish and Packing Co	Nushagak Saltery	Tacoma, Wash	25,000	5,000
Peter Nelson	Egushak Saltery	15 and 17 California street, San Francisco, Cal.	8,000	6,500
A. E. King	Sunny Point Saltery	Chomly, Alaska	7,500	7,500
A. S. Millar	Baronovich Saltery	Ketchikan, Alaska	1,000	1,000
John Mantle	Etolin Island Saltery	Wrangell, Alaska	2,500	3,000
George Whitman & Co	Shineha Bay Saltery	Klawak, Alaska	2,000	1,800
Millar Brothers	Hunters Bay Saltery	Hunters Bay, Alaska	4,000	4,000
A. S. Millar	Skowl Arm Saltery	Ketchikan, Alaska	4,000	3,000
Alaska Fish and Development Co	Pleasant Bay	Seattle, Wash	25,000	16,500
A. Ameson & Co	Shakan Bay Saltery	Shakan, Alaska	1,000	2,500
Chichagof Fish Packing Co	Tenakee Inlet Saltery	Juneau, Alaska	10,000	8,000
Kake Development Co	Saginaw Bay Saltery	Kake, Alaska	1,000	1,000
Knyg & Swindseth	Ideal Cove Saltery	Wrangell, Alaska	2,000	1,500
Engee & Co	Stikine River Saltery	do	3,000	1,000
Alaska Arctic Fish Co	Girard Point Saltery	do	1,500	1,200
Thomas Heckman	Yes Bay Saltery	Ketchikan, Alaska	5,000	5,000
Peninsula Packing Co	Bear River Saltery	San Francisco, Cal.	10,000	6,000
Total			13,943,500	5,472,100

SCHEDULE B.—*Salmon packed, or salted, season of 1904.*

Name of owner.	Location.	Fish utilized.						Prepared product.				
		King.	Red.	Silver.	Pink or humpback.	Dog.	Total.	Canned.	Salted.		Dry salted.	Market price.
		Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Cases.*	*Barrels.*	*Half barrels.*	*Pounds.*	
Alaska Packers' Association	Nushagak River (5)	34,650	2,968,847	63,727	198,316	.....	3,265,540	227,357	694	.....	.....	
Do	Naknek River (2)	3,190	1,453,188	1,003	.....	.....	1,457,381	109,509	849	18	.....	
Do	Ugashik River (2)	490	504,463	558	19,723	.....	525,234	41,380	.....	.....	.....	
Do	Koggiung (4)	4,536	2,466,083	5,083	30,400	.....	2,506,102	182,567	763	714	.....	
Do	Egegak	.....	68,935	.....	.....	.....	68,935	5,022	.....	.....	.....	
Do	Chignik	.....	763,302	.....	27,785	.....	791,087	69,309	.....	.....	.....	
Do	Alitak Bay	.....	668,816	2,200	.....	.....	671,016	48,727	.....	.....	.....	$4,508,624
Do	Karluk (2)	3,190	1,701,330	100,936	5,180	.....	1,810,636	132,441	.....	.....	.....	
Do	Kussilof	30,073	489,348	23,800	.....	.....	543,221	46,485	.....	.....	.....	
Do	Odiak	3,496	368,432	.....	530,172	.....	902,099	53,697	.....	.....	.....	
Do	Pyramid Harbor	144	276,529	9,614	.....	54,308	340,595	34,271	.....	.....	.....	
Do	Wrangel	.....	75,486	59,797	1,150,749	8,250	1,294,282	80,522	.....	.....	.....	
Do	Loring	.....	473,092	83,072	1,101,969	30,552	1,688,685	111,840	.....	.....	.....	
Pacific Packing and Navigation Co.	Orca	2,572	365,398	.....	43,795	.....	411,765	34,738	.....	.....	.....	
Do	Chignik Bay (2)	129	748,000	.....	.....	.....	748,129	67,743	.....	.....	.....	
Do	Uyak Bay (2)	.....	794,146	.....	.....	.....	794,146	46,345	.....	.....	.....	992,229
Do	Nushagak River	16,228	825,568	3,871	1,893	13,959	861,519	57,289	.....	.....	.....	
Do	Sitkoh Bay	.....	226,800	7,416	437,000	.....	671,216	40,037	.....	.....	.....	
North Alaska Salmon Co	Kvichak River (3)	.....	860,405	.....	4,138	.....	864,543	55,777	.....	.....	.....	
Do	Egegak River	.....	88,224	.....	2,691	.....	90,915	6,512	.....	.....	.....	321,468
Do	Nushagak River	312	246,580	18,830	9,002	.....	274,724	19,001	.....	.....	.....	
Naknek Packing Co	Naknek River (2)	1,500	330,000	.....	.....	.....	331,500	25,400	.....	.....	.....	101,440
Bristol Packing Co	Ugashik River	.....	65,000	.....	.....	.....	65,000	5,000	.....	.....	.....	20,000
Northwestern Packing Co	Koggiung	.....	148,000	.....	.....	.....	148,000	.....	2,700	.....	.....	18,900
North Pacific Trading and Packing Co.	Klawak	.....	181,718	71,573	130,940	.....	384,231	27,977	.....	.....	.....	88,392
Alaska Fishermen's Packing Co.	Nushagak River	6,050	428,384	9,400	.....	21,750	465,584	36,883	.....	.....	.....	142,977
Fidalgo Island Canning Co	Ketchikan	.....	141,724	8,667	427,364	.....	577,755	31,008	.....	.....	.....	113,737
Pacific Cold Storage Co	Taku Harbor	31,681	103,996	7,118	160,236	63,340	366,371	24,814	614	.....	[a]57,427	104,335
Red Salmon Canning Co	Ugashik River	270	89,319	.....	.....	1,600	91,189	5,326	200	.....	.....	22,505
Columbia River Packers' Association.	Nushagak River	8,908	339,811	.....	18,081	.....	366,800	29,509	.....	.....	.....	121,835
Pacific Coast and Norway Packing Co.	Wrangell Narrows	3,923	111,681	37,859	316,687	.....	470,150	32,139	.....	.....	.....	105,076
Union Packing Co	Kvichak River	440	136,256	.....	.....	.....	136,696	11,200	.....	.....	.....	44,800
Metlakahtla Industrial Co	Metlakahtla	.....	124,687	10,043	150,769	.....	285,499	16,850	.....	.....	.....	61,942
Alaska-Portland Packing Association.	Nushagak River	5,222	389,290	16,000	60,000	.....	470,512	36,936	.....	.....	.....	148,848

[a] These fish were frozen.

SCHEDULE B.—*Salmon packed, or salted, season of 1904*—Continued.

Name of owner.	Location.	Fish utilized.						Prepared product.				
		King.	Red.	Silver.	Pink or humpback.	Dog.	Total.	Canned.	Salted.		Dry salted.	Market price.
		Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*	*Cases.*	*Barrels.*	*Half barrels.*	*Pounds.*	
Alaska Salmon Co	Nushagak River	13,800	364,000	12,000	16,900		406,700	30,600				$120,840
Columbia Canning Co	Haines Mission	570	159,357	3,216	1,764		164,907	18,001				71,767
Thlinket Packing and Trading Co.	Funter Bay	800	210,000	48,000	330,000	6,500	595,300	40,710				147,461
Alaska Fisheries Union	Chilkat Inlet		516,720		56,980	14,308	588,008	54,597				219,039
Pillar Bay Packing Co	Point Ellis		133,000	35,000	86,400	23,500	277,900	21,740				74,350
Yakutat and Southern Railway Co.	Yakutat Bay		141,653	96,540	102,665		340,858	24,349				88,696
F. C. Barnes	Lake Bay		8,880	12,000	140,000	3,600	164,480	10,138				30,558
Alaska Fish and Packing Co	Ekuk Point		13,000				13,000		250			1,750
Peter Nelson	Egushak River	500	118,000				118,500		1,845	1,000		16,450
A. E. King	Sunny Point				167,000	71,500	238,500		2,058	14	510,812	18,838
Peninsular Packing Co	Bear River		58,240				58,240		1,040			7,280
John Mantle	Etolin Island				36,000		36,000		110			880
Geo. Whitman and Co	Shineha Bay			240	7,920		8,160		105			537
Millar Brothers	Hunters Bay				100,000		100,000		925			4,675
A. S. Millar	Skowl Arm				17,000		17,000		200			1,000
Alaska Fish and Development Co.	Pleasant Bay				23,035		23,035		225	46		1,498
A. Ameson & Co	Shakan Bay				8,500		8,500		100			600
Chichagof Fish Packing Co	Tenakee Inlet		1,200		8,000	5,000	14,200		120		40,000	1,280
Kake Development Co	Saginaw Bay				7,500		7,500		50			400
Knyg & Swindseth	Ideal Cove	540					540		40			400
Engee & Co	North Arm of Stikine River.	540					540		40			400
Alaska Arctic Fish Co	Near Girard Point	775					775		58			580
A. S. Millar	Karta Bay					57,142	57,142				400,000	6,400
Thomas Heckman	Yes Bay				48,000		48,000		600			3,000
Total		174,528	20,746,887	747,563	5,984,554	375,309	28,028,841	1,953,746	13,586	1,792	1,008,289	7,785,782

SCHEDULE C.—*Comparative statement of pack of 1903 and 1904.*

Name of owner.	Location.	1903.		1904.	
		Cases.	Values.	Cases.	Values.
Alaska Packers' Association	Nushagak River	257,325		229,439	
Do	Naknek River	174,709		112,083	
Do	Ugashek River	84,508		41,380	
Do	Koggiung River	259,029		185,927	
Do	Egagek	29,682		5,022	
Do	Chignik Bay	50,627		69,309	
Do	Alitak Bay	25,470	$6,068,320	48,727	$4,508,624
Do	Karluk	90,108		132,441	
Do	Kussilof	45,388		46,485	
Do	Odiak	54,390		53,697	
Do	Pyramid Harbor	40,574		34,271	
Do	Wrangell	70,634		80,522	
Do	Loring	109,739		111,840	
Pacific Packing and Navigation Co.	Orca	35,061		34,738	
Do	Chignik Bay	60,800		67,743	
Do	Kenia	18,991		(a)	
Do	Hunters Bay	41,676		(a)	
Do	Uyak Bay	36,321		46,345	
Do	Nushagak River	66,500	1,697,640	57,289	992,229
Do	Sitkoh Bay	35,870		40,037	
Do	Dundas Bay	25,407		(a)	
Do	Taku Inlet	25,178		(a)	
Do	Chilkoot River	24,655		(a)	
Do	Yes Bay	15,035		(a)	
North Alaska Salmon Co	Kvichak River	72,397		b 55,777	
Do	Egagek River	24,700	585,185	6,512	321,468
Do	Nushagak River	20,500		19,001	
Naknek Packing Co	Naknek River	41,000	164,000	25,400	101,440
Bristol Packing Co	Ugashik River	16,000	64,000	5,000	20,000
Northwestern Packing Co	Koggiung	10,500	21,000	8,100	18,900
North Pacific Trading and Packing Co.	Klawak	22,640	77,162	27,977	88,892
Alaska Fishermen's Packing Co.	Nushagak River	42,131	164,000	36,883	142,977
Fidalgo Island Canning Co	Ketchikan	1,791	7,167	c 31,008	113,737
Pacific Cold Storage Co	Taku Harbor	28,380	101,309	27,613	104,335
Red Salmon Packing Co	Ugashik River	29,087	126,990	5,626	22,505
Columbia River Salmon Association.	Nushagak River	29,590	182,457	29,509	121,835
Alaska Fish and Packing Co	Ekuk River	2,025	5,970	750	1,750
Pacific Coast and Norway Packing Co.	Wrangell Narrows	14,569	51,248	32,139	105,076
Union Packing Co	Kell Bay	28,206	75,000	d 11,200	44,800
F. C. Barnes	Lake Bay			10,130	30,558
Metlakahtla Industrial Co	Metlakahtla	9,200	28,000	16,805	61,942
Alaska-Portland Packing Co	Nushagak River	37,752	172,760	36,936	148,848
Alaska Salmon Co	do	29,900	125,000	30,600	120,840
Columbia Canning Co	Chilkoot	18,000	54,600	18,001	71,767
Thlinket Trading and Packing Co.	Funter Bay	26,970	75,000	40,710	147,461
Alaska Fisheries Union	Chilkat Inlet	30,782	112,727	54,597	219,089
Kasaan Bay Co	Kasaan Bay	28,950	78,400	(a)	
Pillar Bay Packing Co	Point Ellis	13,539	46,182	21,740	74,350
Wales Island Packing Co	Wales Island	34,831	113,200	(a)	
Alaska Fish and Lumber Co	Shakan	12,392	31,400	(f)	
Yakutat and Southern Railway Co.	Yakutat Bay			e 24,349	88,696
Lagoon Packing Co	Nelsons Lagoon	4,440	10,408	(a)	
Peter Nelson	Nushagak River	8,229	16,458	5,838	16,450
Seattle-Scandinavia Fish Co	Snug Harbor	3,714	7,967	(a)	
Millar Brothers	Hunters Bay	1,800	4,800	d 2,775	4,675
A. S. Millar	Skowl Arm and Karta Bay.	3,000	8,000	8,933	7,400
Anderson & King	Clover Bay	3,101	8,836	13,858	18,838
C. F. Brockman	Saakaar	1,200	3,700	(a)	
Jacob Louth	South Arm	633	2,115	(a)	
John C. Frey (John Mauth, successor).	Etolin Island	1,500	4,500	330	880
Beauclerc Salting Co	Kuin Island	750	2,500	(a)	
United Fish Co	Thome Bay	1,761	5,283	(a)	
Alaska Coast Fish and Packing Co.	Holbrook	3,015	8,819	(a)	
George Whitman & Co	Big Harbor	325	2,337	315	587
Millar, Sayles & Co	Sunny Point	6,800	4,800	(a)	
Alaska Fish and Development Co.	Mole Harbor	2,400	6,400	747	1,493

a Discontinued.
b One additional plant this season.
c Only salted last year.
d Removed to new site.
e First pack this season.
f Cannery suspended; plant rented for saltery.

NOTE.—Salted fish are reduced to cases on a basis of 3 cases per barrel for the purpose of comparison.

SCHEDULE C.—*Comparative statement of pack of 1903 and 1904*—Continued.

Name of owner.	Location.	1903.		1904.	
		Cases.	Values.	Cases.	Values.
Chichagof Fish Packing Co....	Tenakee Inlet.....	.....	.....	a 960	$1,280
Thomas Heckman.....	Yes Bay	.....	.....	a 1,800	3,000
Kake Development Co	Saginaw Bay	.....	.....	a 150	400
Knyg & Swindseth	Ideal Cove.....	.....	.....	a 120	400
Alaska-Arctic Fish Co.....	Girard Point.....	.....	.....	a 58	580
Engee & Co.....	Stikine River.....	.....	.....	a 120	400
Peninsula Packing Co	Bear River	.....	.....	a 3,120	7,280
Sundry (small salteries not reported).	.....	5,000 20,000	$14,000 50,000	.....	.....
Total	.....	2,361,782	10,289,685	2,012,928	7,735,782

a First pack this season.

SCHEDULE D.—*Hands employed and wages paid.*

Name of owner.	Location.	Hands employed.					Wages paid.
		Whites.	Natives.	Chinese.	Japanese.	Total.	
Alaska Packers' Association ..	Nushagak River (5).	738	100	576	150	1,564	$360,357
Do.....	Naknek River (2).	403	50	235	151	839	209,256
Do.....	Ugashik River (2).	244	64	106	147	561	109,305
Do.....	Koggiung (4).....	530	75	361	314	1,280	302,476
Do.....	Egegak.....	97	10	67	37	211	44,004
Do.....	Chignik	161	15	61	40	277	100,514
Do.....	Alitak Bay	72	36	64	20	192	61,691
Do.....	Karluk (2)	315	51	196	37	599	189,565
Do.....	Kussilof.....	69	10	65	30	174	67,741
Do.....	Odiak	148	7	44	20	219	78,696
Do.....	Pyramid Harbor .	158	200	62	21	441	65,282
Do.....	Wrangell.....	90	64	105	3	262	82,184
Do.....	Loring	195	116	130	38	479	150,470
Pacific Packing and Navigation Co.	Orca.....	93	6	40	23	162	30,000
Do.....	Chignik Bay (2)..	129	.....	45	30	204	80,000
Do.....	Uyak Bay (2).....	121	8	38	19	186	60,000
Do.....	Nushagak River..	278	.....	107	52	437	65,000
Do.....	Sitkoh Bay	38	104	31	14	187	30,000
North Alaska Salmon Co.....	Kvichak River (3)	223	.....	210	75	508	60,000
Do.....	Egegak River	79	.....	75	25	179	15,000
Do.....	Nushagak River .	87	.....	70	25	182	20,000
Naknek Packing Co.....	Naknek River (2).	104	8	62	115	289	66,000
Bristol Packing Co	Ushagik River....	50	5	35	40	130	35,000
Northwestern Packing Co.....	Koggiung	40	.....	.....	.....	40	10,000
North Pacific Trading and Packing Co.	Klawak	38	85	35	1	159	31,000
Alaska Fishermen's Packing Co.	Nushagak River..	130	20	90	50	290	67,398
Fidalgo Island Canning Co....	Ketchikan	30	122	25	7	184	45,000
Pacific Cold Storage Co.....	Taku Harbor.....	96	36	15	16	163	35,480
Red Salmon Canning Co.....	Ugashik River....	83	.....	75	25	183	36,873
Columbia River Packers' Association.	Nushagak River..	92	.....	65	35	192	49,223
Pacific Coast and Norway Packing Co.	Wrangell Narrows	78	85	35	11	209	28,000
Union Packing Co	Kvichak River ...	89	10	29	13	91	19,000
Metlakahtla Industrial Co	Metlakahtla.....	.....	227	.....	.....	227	21,960
Alaska-Portland Packing Association.	Nushagak River..	81	25	75	36	217	51,680
Alaska Salmon Co	.....do	92	.....	70	31	193	50,000
Columbia Canning Co.....	Haines Mission...	31	64	20	10	125	5,506
Thlinket Packing and Trading Co.	Funter Bay.....	27	23	30	20	100	27,000
Alaska Fisheries Union	Chilkat Inlet.....	134	103	54	10	301	48,343
Pillar Bay Packing Co.....	Point Ellis	23	118	16	6	163	24,250
Yakutat and Southern Railway Co.	Yakutat Bay	32	40	60	10	142	17,500
F. C. Barnes	Lake Bay.....	20	22	20	.....	62	10,000
Alaska Fish and Packing Co..	Ekuk Point.....	6	.....	.....	.....	6	800
Peter Nelson	Egushak River ...	21	.....	.....	.....	21	6,500
A. E. King	Sunny Point.....	37	8	.....	.....	45	6,805
John Mantle	Etolin Island.....	2	7	.....	.....	9	400
George Whitman & Co	Shineha Bay	1	11	.....	.....	12	79
Millar Brothers.....	Hunters Bay	8	36	.....	1	45	8,800

SCHEDULE D.—*Hands employed and wages paid*—Continued.

Name of owner.	Location.	Hands employed.					Wages paid.
		Whites.	Natives.	Chinese.	Japanese.	Total.	
A. S. Millar	Skowl Arm	10				10	$450
Alaska Fish and Development Co.	Pleasant Bay	13	2			15	7,497
A. Ameson & Co	Shakan Bay	8				8	400
Chichagof Fish Packing Co	Tenakee Inlet	16	3		13	32	800
Kake Development Co	Saginaw Bay	2	6			8	150
Knyg & Swindseth	Ideal Cove	3				3	100
Engee & Co	North Arm of Stikine River.	7				7	150
Alaska-Arctic Fish Co	Near Girard Point.	6				6	150
A. S. Millar	Karta Bay	1	10			11	2,200
Thomas Heckman	Yes Bay	4	10			14	1,400
Peninsula Packing Co	Bear River	12				12	4,000
Total		5,645	2,002	3,499	1,721	12,867	2,890,984

SCHEDULE E.—*Vessels, boats, and fishing gear used.*

Name of owner.	Location.	Steamers and launches.		Sailing vessels.		Lighters and boats.	Fishing gear.		
		Number.	Tonnage.	Number.	Tonnage.	Number.	Traps. Number.	Seines. Number.	Gillnets. Number.
Alaska Packers' Association.	Nushagak River (5).	9	777	8	10,300	243	7		187
Do	Naknek River (2).	4	87	5	6,558	119			104
Do	Ugashik River (2).	4	146	3	2,613	78			68
Do	Kogiung (4)	6	1,944	6	9,136	143	4		120
Do	Egegak	2	100	1	588	31			25
Do	Chignik	3	101	1	1,617	65	14		10
Do	Alitak Bay	2	139	1	1,509	28	1	5	2
Do	Karluk (2)	6	318	2	3,842	82	1	10	
Do	Kasilof	3	173	1	1,287	32	8		14
Do	Odiak	5	463	1	1,438	77		4	35
Do	Pyramid Harbor	3	239	1	1,613	80			70
Do	Wrangell	3	149	1	1,398	47		15	15
Do	Loring	3	213	1	2,202	76	1	42	10
Pacific Packing and Navigation Co.	Orca	4	285	1	1,085	57		3	33
Do	Chignik Bay (2)	4	131	1	1,893	26	14		
Do	Uyak Bay (2)	4	201	1	1,572	65		14	
Do	Nushagak River	4	257	2	2,808	83	1		214
Do	Sitkoh Bay	3	160	1	1,249	39		14	3
North Alaska Salmon Co.	Kirchak River (3).	5	410	2	3,400	69	1		65
Do	Egegak River	1	80	1	1,400	22			20
Do	Nushagak River	1	5	1	1,200	34			30
Naknek Packing Co	Naknek River (2).	1	7	1	1,400	48			42
Bristol Packing Co	Ugashik River	1	7	1	1,300	22			20
Northwestern Packing Co.	Kogiung			1	1,200	7			5
North Pacific Trading and Packing Co.	Klawak	3	44	2	666	28		16	
Alaska Fishermen's Packing Co.	Nushagak River	2	107	1	1,552	56			110
Fidalgo Island Canning Co.	Ketchikan	2	50			30		15	
Pacific Cold Storage Co	Taku Harbor	3	118			52	3	2	43
Red Salmon Canning Co.	Ugashik River	1	18	1	1,350	27			22
Columbia River Packers' Association.	Nushagak River	2	100	1	1,100	39			87
Pacific Coast and Norway Packing Co.	Wrangell Narrows	2	69			46		11	19
Union Packing Co	Kvichak River	2	63	1	1,800	18			15
Metlakatla Industrial Co.	Metlakatla	2	60			26		12	8
Alaska-Portland Packing Association.	Nushagak River	1	30	1	1,565	33	1		56
Alaska Salmon Co	do	2	12	1	1,400	45	1		60
Columbia Canning Co	Haines Mission	2	22			28			26
Thlinket Packing and Trading Co.	Funter Bay	1	82			16	5		
Alaska Fisheries Union	Chilkat Inlet	5	110			96	5	10	58

SCHEDULE E.—*Vessels, boats, and fishing gear used*—Continued.

Name of owner.	Location.	Steamers and launches.		Sailing vessels.		Lighters and boats.	Fishing gear.		
		Number.	Tonnage.	Number.	Tonnage.	Number.	Traps. Number.	Seines. Number	Gill nets. Number.
Pillar Bay Packing Co...	Point Ellis.....	2	65	.....	.....	34	.....	14	.....
Yakutat and Southern Railway Co.	Yakutat Bay.....	1	20	.....	.....	14	.....	12	10
F. C. Barnes	Lake Bay.....	1	15	.....	.....	7	.....	4	2
Alaska Fish and Packing Co.	Ekuk Point.....	.....	.....	.....	.....	4	.....	.....	4
Peter Nelson.....	Egoushik River ..	1	15	1	235	10	.....	.....	12
A. E. King	Sunny Point.....	1	24	1	3	8	.....	2	.....
John Mantle.....	Etolin Island.....	.....	.....	.....	.....	6	.....	1	.....
Geo. Whitman & Co.....	Shineha Bay.....	.....	.....	.....	.....	1	.....	1	.....
Millar Brothers.....	Hunters Bay.....	1	18	.....	.....	6	.....	3	.....
A. S. Millar	Skowl Arm	1	5	.....	.....	4	.....	2	.....
Alaska Fish and Development Co.	Pleasant Bay.....	1	2	.....	.....	16	.....	1	.....
A. Ameson & Co.....	Shakan Bay.....	1	20	.....	.....	2	.....	1	.....
Chichagof Fish Packing Co.	Tenakee Inlet....	1	10	.....	.....	6	.....	3	.....
Kake Development Co ..	Saginaw Bay.....	.....	.....	.....	.....	4	.....	1	.....
Kuyg & Swindseth.....	Ideal Cove.....	.....	.....	.....	.....	4	.....	.....	3
Engee & Co.....	North Arm of Stikine River.	.....	.....	.....	.....	8	.....	.....	7
Alaska Arctic Fish Co...	Near Girard Point	.....	.....	.....	.....	5	.....	.....	5
Peninsula Packing Co...	Bear River.....	1	10	1	225	6	.....	.....	6
Total	.....	123	7,481	56	72,494	2,248	67	218	1,635

HERRING, HALIBUT, AND FERTILIZER.

The Alaska herring fisheries seem not to have attracted the activities of men engaged in fishing enterprises to a degree nearly on a par with the promise they afford of successful business. Herring are vastly abundant and widely distributed throughout Alaskan waters, and in many regions the quality is unsurpassed. Nevertheless little use is made of them except for conversion into oil and fertilizer, and this by no means on an extensive scale. One concern which formerly put up several thousand barrels in salt has ceased to handle them in that way.

The Alaska Oil and Guano Company, of Portland, Oreg., with works at Killisnoo, Alaska, reports its operations for the past season as follows:

Total catch, 76,005 barrels; oil made, 152,500 gallons; guano made, 1,520 tons; salmon salted, 15 barrels; herring salted, 150½ barrels; value of product, $80,000. Labor employed: Whites, 80; Japanese, 12; Chinese, 1; Indians, 40. Wages paid, $55,000. Operations are carried on during about seven months of the year. Three steam vessels are in use for transporting the catch from the several fishing grounds—some of them 75 miles from the plant to the works.

Compared with the business of 1903, the figures are:

Output.	1903.	1904.
Fish taken.....barrels..	66,445	76,005
Oil produced.....gallons..	146,250	152,500
Guano made.....tons..	1,344	1,520
Salmon salted.....barrels..	298	15
Herring salted.....half barrels..	580	150
Gross receipts.....	$75,000	$80,000

Another fertilizer and oil plant was installed this season on Dall Island, southeastern Alaska, by the North Pacific Fish and Oil Company, which has its headquarters in Seattle, Wash. The following information of its scope and purposes was obtained from Mr. F. J. Farmer, manager: The site, buildings, etc., cost $12,000. The number of hands employed are 22. One steamer and two sailboats were used in gathering fish. Fishing gear consisted of two drag and two purse seines. It was intended to use dog-fish and refuse from salteries and canneries in the business, and neither herring nor salmon. At the date of the visit operations had not yet begun, and no report has been received since. It did not seem probable, however, that much more than to get the business into smooth running order would be accomplished this year.

The Alaska halibut business has made a great stride forward during the past season, and is undoubtedly still in its infancy. The waters of the passages between the multitude of islands from the boundary northward clear to the Gulf of Alaska teem with this valuable fish, which attain to a very large size, 200-pounders being not uncommon and still larger ones being frequently taken. The method of fishing for them is simple, and any one with a boat and a strong hand line can find a lucrative occupation in taking them. They are shipped first to Seattle, Wash., and from that port distributed eastward in refrigerator cars. As showing the rapid increase in the industry, it is noted that during the last four months of 1904 the output grew from 832,500 pounds, valued at $28,596, in 1903, to 2,412,876 pounds, worth $82,154. The industry is rapidly expanding, and being highly profitable with slight requirement of capital is a most valuable and reliable resource for poor men. The market price has gone up during the past season from 2½ cents per pound to 3½ cents to first-hand buyers. In the Middle West and Eastern markets the fish retails at from 20 to 35 cents. Much of the supply for even Atlantic coast cities now comes from Alaska and Puget Sound regions.

MISCELLANEOUS.

There was a singular prevalence of small salmon at nearly all Alaska fisheries this season, and the most experienced fishermen were at a loss to account for them. At Chignik and Cook Inlet they were thought to be fish hatched at Karluk, which are perhaps the smallest of Alaska salmon. At the latter place, also, almost the entire summer run was made up of unusually small fish, averaging 20 to the case, against the common average of 13 or 14. It may be that the Karluk hatch is getting back and diffusing itself through adjacent waters. But the fact that these fish were below the normal size of Karluk salmon and were found at points much farther away than the places mentioned, makes this explanation questionable.

A considerable number of what appeared to be genuine fresh-water white-fish were taken in Bristol Bay this season.

For several years Superintendent Wetherby, at Kussilof, Cook Inlet, has offered a reward to the fisherman who brought in a shad, having been impressed with the belief that sooner or later that species of fish would make its way from the Sacramento River into the waters of the North Pacific. This summer his expectation was realized, and a fine female shad full of roe was brought in. But a single one was caught.

The increasing difficulty of securing sufficient numbers of Chinamen for the operation of the canneries, mentioned in former reports, was the occasion of a good deal of trouble to the packers this season, and various experiments for relief were resorted to. Many more Japs than usual were employed. While the latter were not quite satisfactory if employed in gangs of mixed nationalities, by themselves they proved excellent workers. In addition to the Japs at different places there were found Mexicans, Porto Ricans, Filipinos, and South Americans. It has come to be almost impossible to supply the very large plants with Chinese gangs only, and the problem of filling their places with an equally good class of workers is bound to be perplexing for some time to come.

The putting up of dry-salted salmon for the Japanese trade is a growing branch of the Alaska fish industry, and is important in that it utilizes the dog or "chum" variety, of which the supply is practically unlimited, but which is undesirable for either canning or salting in the usual manner. The Japanese demand for this product already exceeds the present supply, and it is not doubted that the market would steadily keep pace with an enlarged production. A packer who has been giving his attention to this line of the business says: "We and all who have tried dry-salting dogs or 'chums' regard them, without exception, the very best kind of salmon we have ever seen. If the American public could only know how good a fish they are, I feel sure a large home market would be opened for a fish with which Alaska waters are teeming, and for which there has been heretofore little use."

RECOMMENDATIONS.

I have the honor to submit the following recommendations:

1. That there be a general revision of existing laws and regulations for the protection of the salmon fisheries. This suggestion has been made by me in each succeeding annual report since my connection with the work. Though the matter has been more or less considered in Congress from time to time, no changes thus far have been accomplished, despite the fact that there is no dissent that the crudities and inconsistencies of the act urgently demand a cure.

2. That the tax on canned salmon, which now makes no distinction between the more valuable and the cheaper grades—in which there is a difference of nearly 50 per cent in market value—be modified to recognize this condition. The present rate of taxation has been peculiarly burdensome upon the packers of so-called "pink" fish, who, of late years, have had a struggle for existence.

3. That an appropriation sufficiently liberal to provide for the erection and equipment of not less than four first-class hatcheries—say $200,000—be asked for.

4. That, for the reasons given elsewhere in this report, the regulation requiring the maintenance of hatcheries by all persons taking salmon for commercial purposes in Alaska waters be rescinded.

The season's report of the assistant agent is given herewith.

Respectfully submitted.

HOWARD M. KUTCHIN,
Agent at Salmon Fisheries of Alaska.

The SECRETARY OF COMMERCE AND LABOR.

REPORT

OF THE

COMMISSIONER OF NAVIGATION

REPORT

OF THE

COMMISSIONER OF NAVIGATION.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF NAVIGATION,
Washington, November 5, 1904.

SIR: I have the honor to submit to you the annual report of the Bureau of Navigation, comprising statistics and recommendations, as prescribed by law.

On July 1, 1903, the Bureau of Navigation became a part of the Department of Commerce and Labor, pursuant to the act of February 14, 1903, which created that Department. The severance of established relations and the establishment of new relations necessarily was attended with some embarrassments. Probably more than any other Bureau transferred from the Treasury Department the Bureau of Navigation at the outset experienced the effects of changed relations. Its daily duties in respect of the movements of vessels, transportation of cargoes and passengers, entry, clearance, etc., requiring prompt performance in the interests of commerce, involved close relations with the collectors of customs and cooperation at times with the customs division, special agents, and other branches of the Treasury service. When those relations were severed it was not entirely clear just what portion of some details of work were intrusted to the Secretary of Commerce and Labor and what to the Secretary of the Treasury. The act of Congress creating the new Department was necessarily broad in its terms, and left the readjustment of details to administrative officers. The Bureau of Navigation considered that the purpose of Congress in creating a Department "to foster, promote, and develop the foreign and domestic commerce * * * shipping * * * and transportation interests of the United States" supplied the principle of readjustment, and that matters involving shipping were within the province of the new Department and outside the province of the Treasury. Various questions of construing the act were sent to the Attorney-General for an opinion to guide the Departments. In one of these opinions (August 13, 1903) the Attorney-General held:

> The general line of cleavage established by the act creating your Department between it and the Treasury Department leaves "navigation" with you and little with the Treasury Department, which does not concern the collection, keeping, minting, and disbursing of the public treasure. Accounts relating to "navigation" are accounts relating to "business within the jurisdiction" of your Department.
>
> * * * * * * *
>
> In case of doubt we are accordingly justified in saying that a matter which belongs to navigation, as this does, has been transferred to you.

During the fiscal year many of these matters of administrative detail have been settled, partly under the advice of the Department of Justice and partly by agreement with the Treasury. The Treasury formerly printed 2,358 forms and blanks, which had to be divided between the two Departments. To divide these blanks correctly was the task assigned to a commission of representatives of the two Departments. It was perplexing, as the duty, under the laws as they now exist, to furnish blanks in most cases carries with it jurisdiction over the work to which they relate. That work often is connected not only with cases of shipping, navigation, etc., transferred by the act of February 14, 1903, to the Department of Commerce and Labor with the Bureau of Navigation, the Bureau of Statistics, Immigration Service, and the Steamboat-Inspection Service, but also with the Customs Service, which remains in the Treasury Department. In many instances the jurisdiction was so dovetailed together that it has been difficult to disentangle the portions remaining in the Treasury Department from those transferred to the new Department. Such matters for several months delayed somewhat the regular work of the Bureau and imposed extra work. They are now disposed of or in the way of early adjustment.

SUMMARY OF AMERICAN SHIPPING.

The documented tonnage of the United States on June 30, 1904, comprised 24,558 vessels of 6,291,535 gross tons. These figures do not include 1891 yachts of 78,452 gross tons which do not engage in trade.

The total shipping of the United Kingdom for 1903 was 20,452 vessels of 15,778,002 gross tons, these figures not including 15,954 vessels of 1,562,835 net tons belonging to British possessions. The total shipping of the German Empire on January 1, 1903, was 6,153 vessels of 3,704,697 gross tons. The American increase during the fiscal year was 204,190 gross tons; for the latest year's returns available the German increase was 201,146 gross tons, the British 420,950 gross tons. British and German shipping is almost wholly engaged in foreign trade; the increase in registered American tonnage was only 9,992 gross tons. The recent development of American shipping is shown by the following figures for quadrennial periods:

Total American merchant shipping.

On June 30—	Foreign trade.	Coasting trade.	Sea fisheries.	Total.
1892	977,624	3,700,773	86,524	4,764,921
1896	829,833	3,790,296	88,751	4,708,880
1900	816,795	4,286,516	61,528	5,164,839
1904	888,628	5,335,164	67,743	6,291,535

Gain or loss in four years.

Period.	Foreign trade.	Coasting trade.	Sea fisheries.	Total.
1892–1896	−147,791	89,523	− 2,773	−61,041
1897–1900	− 13,038	496,220	−22,223	460,959
1901–1904	71,833	1,048,648	6,215	1,126,696

The American tonnage built during recent periods of four fiscal years has been as follows:

Period.	Gross registered tons.
1893–1896, inclusive	681,582
1897–1900, inclusive	1,106,518
1901–1904, inclusive	1,767,014

STATISTICS FOR THE YEAR.

On June 30, 1904, the merchant marine of the United States, including all kinds of documented shipping, comprised 24,558 vessels, of 6,291,535 gross tons. On June 30, 1903, it comprised 24,425 vessels, of 6,087,345 gross tons. The following table shows the geographical distribution, motive power and material of construction, and trade of vessels of the United States for the fiscal year 1904, compared with the fiscal year 1903, and also the construction for the two years:

Comparison of 1903 and 1904.

Classification.	1903.		1904.	
	Number.	Gross tonnage.	Number.	Gross tonnage.
Geographical distribution.				
Atlantic and Gulf coasts	17,218	3,149,711	17,330	3,244,928
Porto Rico	59	7,662	66	7,488
Pacific coast	2,575	775,859	2,542	775,255
Hawaiian Islands	69	36,320	61	31,322
Northern lakes	3,110	1,902,698	3,075	2,019,208
Western rivers	1,394	215,095	1,484	213,384
Total	24,425	6,087,345	24,558	6,291,535
Power and material.				
Sail:[a]				
Wood	16,187	2,391,017	15,900	2,389,131
Iron and steel	184	288,240	195	306,986
Total	16,371	2,679,257	16,095	2,696,117
Steam:				
Wood	6,675	1,256,081	7,012	1,283,825
Iron and steel	1,379	2,152,007	1,451	2,361,593
Total	8,054	3,418,088	8,463	3,595,418
Canal boats	695	78,406	692	77,583
Barges	2,840	634,927	2,917	673,578
Total	3,585	713,333	3,609	751,161
Trade.				
Registered:				
Steam, iron and steel	156	464,282	150	491,456
Steam, wood	201	68,178	198	62,700
Sail, wood and iron and steel[a]	813	361,366	856	344,612
Total	1,170	888,776	1,204	898,768
Enrolled and licensed:				
Steam, iron and steel	1,223	1,687,775	1,301	1,870,137
Steam, wood	6,474	1,192,908	6,814	1,171,125
Sail, wood and iron and steel[a]	15,558	2,317,891	15,239	2,351,505
Total	23,255	5,198,569	23,354	5,392,767

[a] Including canal boats and barges.

Comparison of 1903 and 1904—Continued.

Classification.	1903.		1904.	
	Number.	Gross tonnage.	Number.	Gross tonnage.
CONSTRUCTION DURING THE YEAR.				
Geographical distribution.				
Atlantic and Gulf coasts	[a] 847	244,860	[b] 702	186,680
Pacific coast	[c] 191	43,336	176	21,608
Northern lakes	123	136,844	119	159,433
Western rivers	150	11,112	187	10,821
Total	1,311	436,152	1,184	378,542
Power and material.				
Sail:				
Wood	466	77,795	326	49,618
Steel	4	12,184	4	15,290
Steam:				
Wood	451	81,674	525	33,437
Iron and steel	100	240,107	88	222,307
Canal boats	19	2,215	25	2,753
Barges:				
Wood	267	66,249	210	51,654
Steel	4	5,928	6	3,483
Total	1,311	436,152	1,184	378,542

[a] Including 10 vessels of 112 tons, Porto Rican.
[b] Including 7 vessels of 121 tons, Porto Rican.
[c] Including 4 vessels of 41 tons, Hawaiian.

Tonnage registered for the foreign trade (and whale fisheries) shows a slight, but satisfactory, increase of 9,992 gross tons over the returns for 1903. The change since 1900 in the character of our registered tonnage is shown at a glance by the following:

Date.	Sail.		Steam.		Total.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
June 30, 1900	992	485,352	338	341,342	1,330	826,694
June 30, 1904	856	344,612	348	554,156	1,204	898,768
Gain (+) or loss (−)	−136	−140,740	+10	+212,814	−126	+72,074

The increase in registered tonnage for the four years is not large, but the increase in efficiency, due to the change from sail to steam, is considerable. It is reflected in our trade returns, the percentage of exports and imports carried in American vessels last year being 10.3 per cent, compared with 9.3 per cent in 1900. Besides the change in motive power, there has been a considerable increase in the average size of American vessels in foreign trade, and this carries with it economy in construction and operation. The average size of American vessels in foreign trade has changed during the four years as follows:

Date.	Sail, average tonnage.	Steam, average tonnage.	General, average tonnage.
June 30, 1900	489	1,010	622
June 30, 1904	403	1,592	746
Gain (+) or loss (−)	−86	+582	+124

During the four years have been built the three groups of sister ships: *Manchuria* and *Mongolia*, each 13,638 gross tons; *Finland* and *Kroonland*, each 12,760 gross tons; and *Korea* and *Siberia*, each of 11,276 gross tons. To these will probably be added during the current year, *Minnesota* and *Dakota*, each of 20,718 tons. The addition of these two steamers will probably maintain our registered tonnage at the end of the current fiscal year at nearly the present figures, as they will suffice to offset the normal annual decrease in registered sail tonnage. As no new steamers for foreign trade are building at present, the decline in registered tonnage, temporarily checked, will doubtless be resumed in the fiscal year beginning July 1, 1905.

ANALYSIS OF THE YEAR'S CONSTRUCTION.

During the past fiscal year 1,184 vessels of 378,542 gross tons have been built and documented in the United States, compared with 1,311 vessels of 436,152 gross tons for the previous fiscal year.

The following table of all vessels of 1,000 tons or upward, built and officially numbered during the past year shows the salient features of the year's shipbuilding in the United States, for though only 77 vessels are mentioned, they aggregate 275,461 gross tons, or about 70 per cent of the total construction.

Vessels over 1,000 gross tons built in the United States and officially numbered during the year ended June 30, 1904.

[NOTE.—Six of the vessels mentioned below, though officially numbered, did not take out documents until after July 1, 1904, and accordingly are not included in the statistical tables of documented vessels at the end of this volume. They are marked with an asterisk.]

Name.	Gross tonnage.	Where built.
SEABOARD.		
Steel steamers.		
Minnesota*	20,718	New London, Conn.
Manchuria	13,638	Camden, N.J.
Mongolia	13,638	Do.
Missouri	7,914	Sparrows Point, Md.
San Jacinto	6,069	Chester, Pa.
City of Atlanta*	5,433	Do.
City of Columbus	5,433	Do.
Lewis Luckenbach	3,905	Camden, N.J.
Boston*	3,626	Quincy, Mass.
Total (9)	80,374	
Steel ferry, river, and bay steamers.		
C. W. Morse	4,307	Wilmington, Del.
Tuxedo	1,483	Do.
Arlington	1,446	Port Richmond, N.Y.
Plainfield	1,225	Elizabeth, N.J.
Total (4)	8,461	
Wooden steamers.		
Jefferson*	1,615	Tacoma, Wash.
San Jose	1,115	Alameda, Cal.
Yerba Buena	1,115	Do.
Total (3)	3,845	
SEABOARD—con.		
Wooden schooners.		
Elizabeth Palmer	3,065	Bath, Me.
Singleton Palmer	2,859	Waldoboro, Me.
Margaret Haskell*	2,114	Camden, Me.
Edward H. Cole	1,791	Rockland, Me.
Magnus Manson	1,751	Bath, Me.
Frontenac	1,704	Do.
Winfield S. Schuster.	1,481	Rockport, Me.
Helen Thomas	1,470	Thomaston, Me.
Crescent	1,443	Fairhaven, Cal.
Horace A. Stone	1,376	Brewer, Me.
Henry F. Kreger	1,250	Bath, Me.
Helen E. Taft*	1,197	Thomaston, Me.
James B. Drake	1,153	Bath, Me.
Eleanor F. Bartram	1,114	East Boothbay, Me.
Total (14)	23,768	
Steel schooner.		
William L. Douglas.	3,708	Quincy, Mass.
Rigged barges.		
S. O. Co. No. 94 (steel).	4,167	Shooter Island, N.Y.
S. O. Co. No. 95 (steel).	4,167	Do.
S. O. Co. No. 92 (steel).	3,248	Port Richmond, N.Y.

*Documented after June 30, 1904.

Vessels over 1,000 gross tons built in the United States and officially numbered during the year ended June 30, 1904—Continued.

Name.	Gross tonnage.	Where built.	Name.	Gross tonnage.	Where built.
SEABOARD—con.			GREAT LAKES—con.		
Riggedbarges—Con.			*Steel steamers*—Con.		
Oley	1,780	Noank, Conn.	J. L. Weeks	4,551	West Bay City, Mich
Beattie	1,117	Bath, Me.	Perry G. Walker	4,470	Chicago, Ill.
Annie	1,098	Do.	R. L. Ireland	4,470	Do.
Total (6)	15,577		Wilbert L. Smith	4,319	Lorain, Ohio.
GREAT LAKES.			Utica	3,583	Wyandotte, Mich.
Steel steamers.			R. W. England	3,887	Ecorse, Mich.
			P. P. Miller	3,845	Cleveland, Ohio.
			Kensington	3,762	Toledo, Ohio.
			Pere Marquette, 19.	2,626	Cleveland, Ohio.
			Pere Marquette, 20.	2,626	Do.
Augustus B. Wolvin.	6,585	Lorain, Ohio.	Pere Marquette, 14.	2,531	Wyandotte, Mich.
			Missouri	2,434	Chicago, Ill.
Sahara	5,785	Do.	Grand Haven	2,320	Toledo, Ohio.
Wisconsin	4,858	Superior, Wis.	Eastland	1,961	Port Huron, Mich.
Umbria	4,803	Cleveland, Ohio.	Marquette and Bessemer, No. 1.	1,732	Buffalo, N. Y.
Edwin F. Holmes	4,787	Lorain, Ohio.			
Western Star	4,764	Wyandotte, Mich.	A. D. Davidson[a]	1,640	Wyandotte, Mich.
Joseph C. Gilchrist.	4,725	Lorain, Ohio.	Albert M. Marshall.[a]	1,640	Do.
Henry S. Sill	4,720	Superior, Wis.			
Saxona	4,716	Cleveland, Ohio.	Geo. C. Howe	1,550	Chicago, Ill.
R. E. Schuck	4,713	Lorain, Ohio.	John Crerar	1,550	Do.
Lewis Woodruff	4,707	Do.	City of Benton Harbor (side wheel).	1,286	Toledo, Ohio.
Francis Widlar	4,682	Cleveland, Ohio.			
Martin Mallen	4,635	Do.			
Duluth	4,623	Chicago, Ill.	John C. Howard	1,244	St. Clair, Mich.
F. B. Squire	4,582	Port Huron, Mich.			
Frank W. Gilchrist.	4,551	West Bay City, Mich.	Total (37)	136,213	

[a] Built for seaboard trade.

The following unrigged steel vessels over 1,000 gross tons were built during the year:

Name.	Tonnage.	Where built.
N. Y., P. & N. R. R. Barge No. 10	1,423	Wilmington, Del.
Scow No. 46	1,046	New London, Conn.
Scow No. 49	1,046	Do.
Total (3)	3,515	

The following summary of the vessels just named and of vessels of over 1,000 gross tons built during the three preceding fiscal years shows the changes in the larger forms of construction for the four-year period.

Type.	1904.		1903.		1902.		1901.	
	Number.	Gross tons.	Number.	Gross tons.	Number.	Gross tons.	Number.	Gross tons.
SEABOARD.								
Ocean steel steamers	9	80,374	18	101,471	16	95,105	16	76,374
Steel ferryboats, steam dredges, and bay steamers	4	8,461	3	3,849	5	5,479	9	13,907
Wooden steamers	3	3,845	3	4,605	.....	.....	2	3,284
Square-rigged vessels	.....	.....	2	2,638	7	12,366	6	11,257
Wooden schooners	[a] 15	27,476	[b] 20	36,329	[c] 21	36,122	22	40,273
Rigged barges	6	15,577	7	10,947	4	7,359	10	13,077
Unrigged vessels	3	3,515	.....	.....	.....	.....	.....	.....
Total	40	139,248	53	159,839	53	156,431	65	158,172
GREAT LAKES.								
Steel steamers	37	136,213	37	131,283	41	158,631	40	139,102
Wooden steamers	.....	.....	.....	.....	.....	.....	2	3,268
Schooners	.....	.....	2	5,426	.....	.....	1	2,790
Rigged barges	.....	.....	.....	.....	.....	.....	4	8,446
Total	37	136,213	39	136,709	41	158,631	47	153,606
Grand total	77	275,461	92	296,548	94	315,062	112	311,778

[a] Including steel schooner William L. Douglas, 3,708 tons.
[b] Including steel schooners Thomas W. Lawson, 5,218 tons, and Kineo, 2,128 tons.
[c] Including steel schooner barge Providence, 1,651 tons.

The causes which, during the calendar year 1900, led to the letting of contracts for the construction in the United States of a number of large ocean steamers and stimulated shipbuilding here and abroad during the following years have been considered in former reports. In this country those causes soon ceased to operate, and the construction of ocean steamers on the American seaboard has been confined, in the main, for three years to the completion of those contracts.

The steamship *Minnesota*, of 20,718 gross tons, built for trans-Pacific trade in connection with a transcontinental railroad system terminating at Puget Sound, was almost completed the past fiscal year, and during the current fiscal year the sister ship *Dakota* will probably be completed and documented. These two steamers are by far the largest ever built in the United States and by far the largest ever employed under any flag on the Pacific. In tonnage they are exceeded at present by the White Star liners *Cedric*, of 21,035 gross tons, and *Celtic*, of 20,904 gross tons. Certain minor spaces, excluded under the American law, would bring the *Minnesota* and *Dakota* abreast of the two steamers under the British flag, just named. The White Star liner *Baltic*, recently put in commission, measures 23,876 gross tons. The *Kaiser Wilhelm II*, of 19,360 gross tons, is the largest German steamship afloat. The *Minnesota* and *Dakota*, if forerunners of similar steamers, would foretell the predominance of American merchant shipping on the Pacific. Under present conditions, however, other such steamers are not likely to be built. The president of the Great Northern Railroad, Mr. James J. Hill, has stated:

> I had an experience in the building of two very large ships, and I am quite sure I do not want any more. They are the two largest freight-carrying ships in the world. We expected to finish them in two years, and it has taken nearly four, strikes and other difficulties following one another. I would rather undertake to build a thousand miles of railroad than two ships.

The *Mongolia* and *Manchuria*, each of 13,638 gross tons, were contracted for by the Atlantic Transport Line, but were taken over by the

Pacific Mail Steamship Company for trade with the East by way of Hawaii. The completion of the four large steamers for trade with Asia, just named, together with the trans-Atlantic steamer *Missouri*, delayed in building by fire, will bring to an end the work begun under the contracts of 1900 and thereabouts. There is no work in sight at present to take its place in furnishing employment to labor and capital in the seaboard shipyards.

CONSTRUCTION DURING THE CURRENT FISCAL YEAR.

At the beginning of the current fiscal year the outlook for steel shipbuilding on the seaboard was less satisfactory than at any corresponding period since July 1, 1899. In last year's report it was stated: "By next summer our shipyards on the seaboard will probably be able to work to barely one-third of their capacity, or less." Completion of contracts and the lack of new orders for steamers have left our principal yards with little work, except on ferryboats for railroads and on Government construction.

American builders of steel vessels were requested to make a return showing steel merchant vessels on July 1, 1904, under construction or under contract at their respective establishments. The Navy Department, Revenue-Cutter Service, and Light-House Board furnished statements of vessels building or under contract in private yards for their services on that date. Following is a summary of those statements:

MERCHANT AND GOVERNMENT.

Name.	Capital.	Men.	Ships building July 1, 1904.		Government vessels building.		Merchant capacity.	
			Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Newport News Shipbuilding and Dry Dock Co., Newport News, Va.	.....	7,500	4	4,000	6	84,008	10	50,000
Wm. Cramp & Sons Ship and Engine Building Co., Philadelphia, Pa	.....	5,000	1	2,255	5	67,860	.....	100,000
Fore River Ship and Engine Co., Quincy, Mass	$4,800,000	2,400	4	7,586	3	45,896	.....	.....
New York Shipbuilding Co., Camden, N. J	.....	2,500	1	3,500	7	33,605	6	40,000
Neafie & Levy Ship and Engine Building Co., Philadelphia, Pa.	800,000	1,500	6	1,235	1	9,700	10	8,000
William R. Trigg Co., Richmond, Va	.....	.....	1	2,500	1	3,200	.....	.....
Harlan & Hollingsworth, Wilmington, Del.	2,500,000	2,000	3	3,557	1	340	10	14,000
Townsend-Downey Shipbuilding Co., Shooters Island, N. Y.	.....	500	1	.....	1	626	.....	.....
Total	8,100,000	21,400	21	24,633	25	245,235	36	212,000

MERCHANT ONLY.

Name.	Capital.	Men.	Ships building July 1, 1904.		Merchant capacity.	
			Number.	Tonnage.	Number.	Tonnage.
Eastern Shipbuilding Co., New London, Conn.	.....	1,600	3	42,583	4	20,000
Maryland Steel Co., Sparrows Point, Md	$1,000,000	1,500	6	8,080	6	36,000
John H. Dialogue & Son, Camden, N. J	.....	700	7	4,620	.....	.....
T. S. Marvel, Newburgh, N. Y	200,000	350	6	3,694	3	4,000
Burlee Dry Dock Co., Port Richmond, N. Y	.....	.....	4	2,660	.....	.....
Merrill-Stevens Engineering Co., Jacksonville, Fla	450,000	250	2	1,400	6	2,500
Baltimore Shipbuilding and Dry Dock Co., Baltimore, Md	.....	600	4	1,180	4	6,000
Pusey & Jones Co., Wilmington, Del	700,000	550	2	805	.....	.....
Delaware River Iron Shipbuilding and Engine Works, Chester, Pa	.....	400	1	5,433	.....	.....
Total	2,350,000	5,950	35	69,955	23	68,500

GOVERNMENT ONLY.

Name.	Capital.	Men.	Government vessels building.		Merchant capacity.	
			Number.	Tonnage.	Number.	Tonnage.
Union Iron Works, San Francisco, Cal	.....	.....	4	49,500	.....	.....
Moran Brothers Co., Seattle, Wash	$800,000	1,200	1	14,948	3	18,000
Wolff & Zwicker Iron Works, Portland Oreg	.....	.....	1	248	.....	.....
Bath Iron Works, Bath Me	.....	.....	1	14,948	.....	.....
Gas Engine and Power Co. and Chas. L. Seabury & Co., Morris Heights, N. Y	600,000	800	2	2,170	.....	.....
Spedden Shipbuilding Co., Baltimore, Md	.....	.....	1	175	.....	.....
Geo. Lawley & Son Corporation, South Boston, Mass	.....	.....	1	166	.....	.....
The Crescent Shipyard, Elizabethport, N. J	.....	.....	1	3,548	.....	.....
Total	900,000	2,000	12	85,700	3	18,000

GREAT LAKES AND WESTERN RIVERS.

Name.	Capital.	Men.	Ships building July 1, 1904.		Government vessels building.		Merchant capacity.	
			Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Howard's Shipyard, Jeffersonville, Ind	$100,000	300	1	400	1	500	.....	.....

NO MERCHANT OR NAVAL CONSTRUCTION.

Name.	Capital.	Men.	Merchant capacity.	
			Number.	Tonnage.
American Shipbuilding Co.:				
Cleveland, Ohio	.....	.....	.....	.....
Lorain, Ohio	.....	.....	.....	.....
Detroit	.....	1,500	4	5,000
Chicago	.....	1,200	8	32,000
West Superior, Wis	.....	.....	.....	.....
Buffalo	.....	400	4	10,000
West Bay City, Wis	.....	.....	.....	.....
Arthur Sewall & Co., Bath, Me	.....	.....	.....	.....

NO MERCHANT OR NAVAL CONSTRUCTION—Continued.

Name.	Capital.	Men.	Merchant capacity.	
			Number.	Tonnage.
Atlantic Works, East Boston, Mass	$750,000	350	2	3,000
Continental Iron Works, Brooklyn, N. Y				
David Bell Engineering Works, Brooklyn, N. Y				
Duluth Dry Dock Co., Duluth, Minn				
Herreshoff Manufacturing Co., Bristol, R. I		200		
Iowa Iron Works, Dubuque, Iowa				
Jenks Shipbuilding Co., Port Huron, Mich	100,000	500	4	12,000
Johnson Bros., Ferrisburg, Mich	65,000	75		1,000
Kensington Shipyard Co., Philadelphia, Pa				
Pacific Steel Barge Co., Everett, Wash				
Peoples' Machine and Boiler Works, Baltimore, Md				
Quintard Iron Works, New York				
Risdon Iron Works, San Francisco, Cal				
Ship Owners' Dry Dock Co., Chicago, Ill	900,000	200	3	15,000
Starin Shipyard and Iron Works, Port Richmond, N. Y		150		
Wm. Skinner & Sons, Baltimore, Md				
Total	1,815,000	4,575	25	78,000

SUMMARY.

	Capital.	Men.	Ships building July 1, 1904.		Government vessels building.		Merchant capacity.	
			Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Merchant and Government	$8,100,000	21,400	21	24,633	25	245,235	36	212,000
Merchant only	2,350,000	5,950	35	69,955			23	68,500
Government only	900,000	2,000			12	85,700	3	18,000
Great Lakes	100,000	300	1	400	1	500		
No construction	1,815,000	4,575					25	78,000
Total	13,265,000	34,225	57	94,988	38	331,435	87	376,500

Contract price of Government construction, $86,561,366.

At the beginning of the current fiscal year the principal shipbuilding yards on the Great Lakes were without work and without contracts. As late as August 24 the American Shipbuilding Company, owning the principal yards on the lakes, was virtually closed down and construction conditions were reported discouraging. In September, however, several large orders were placed, but the output on the lakes for the current fiscal year probably will be less than during recent years in spite of good orders in the late autumn.

On the seaboard, at the beginning of the fiscal year, the following steel ocean steamers, of 1,000 tons or upward, were under construction:

Ocean steel screw steamships over 1,000 tons building in fiscal year ending June 30, 1905.

Vessel.	Owner.	Gross tonnage.	Where building.
	Foreign (trans-Pacific direct).		
Minnesota	Great Northern S. S. Co	20,718	New London, Conn.
Dakota	do	20,718	Do.
Total		41,436	

Ocean steel screw steamships over 1,000 tons building, etc.—Continued.

Vessel.	Owner.	Gross tonnage.	Where building.
	Coasting.		
City of Atlanta	Ocean S. S. Co	5,433	Chester, Pa.
Providence	New York, New Haven and Hartford.	3,960	Quincy, Mass.
Boston	do	3,626	Do.
Ontario	Merchants and Miners' Transportation Co.	3,082	Camden, N. J.
Mohican	Clyde Steamship Co	2,255	Philadelphia, Pa.
———	Standard Oil Co	2,500	Richmond, Va.
Total coasting		20,856	
Total foreign		41,436	
Grand total		62,292	

Of these eight steamers, however, the *Minnesota*, *City of Atlanta*, and *Boston*, aggregating 29,777 tons, were officially numbered last year, and are now in commission, so that the table, in effect, overstates the work on hand.

The present and recent conditions of steel shipbuilding in the United States are most concisely shown by the following table giving the number and tonnage of steel vessels under construction or under contract at the dates named:

Date.	Merchant.		Government.		Total.	
	Number.	Tons.	Number.	Tons.	Number.	Tons.
August 15, 1900	68	277,680	47	113,329	115	391,009
June 15, 1901	89	355,645	71	281,148	160	636,793
July 1, 1902	104	347,486	67	269,890	171	617,376
July 1, 1903	88	255,675	47	334,147	135	589,822
July 1, 1904	57	94,988	38	331,435	95	427,121

In addition to 331,435 tons (displacement) under construction for the Government at private yards, four vessels of 19,946 tons are building for the Navy at Government navy-yards, for which $5,002,000 have been appropriated. At the present time the labor and capital employed in construction of the larger types of ocean steam tonnage is thus almost wholly dependent on appropriations by Congress and bids fair to continue so throughout the year.

The following table shows the number and tonnage of ocean steel steamers, each of 1,000 gross tons or upwards, built during each fiscal year named and under construction on July 1, 1904, classified according to the trade for which they were built:

Trade.	1901.[a]		1902.[a]		1903.[a]		1904.[a]		1905.[b]	
	Number.	Gross tons.	Number.	Gross tons.	Number.	Gross tons.	Number.	Gross tons.	Number.	Gross tons.
Foreign, trans-Atlantic	.....	.....	1	12,760	4	36,500	1	7,914	.....	.....
Foreign, trans-Pacific (direct)	.....	.....	2	19,212	.....	.....	.....	.....	2	41,436
Foreign, trans-Pacific (via Hawaii)	3	18,495	1	11,276	1	11,284	2	27,276	.....	.....
Foreign, West Indies, Mexico, Venezuela	4	17,121	3	5,858	.....	.....	.....	.....	.....	.....
Coasting (Hawaii)	4	22,492	2	13,079	2	17,286	.....	.....	.....	.....
Coasting	14	37,134	12	47,095	11	36,401	3	15,407	6	20,856
Total	25	95,242	21	108,775	18	101,471	6	50,597	8	62,292

[a] Vessels built and documented. [b] Vessels building or under contract on July 1, 1904.

The vessels building on July 1, 1904, are in commission or probably will be before July 1, 1905, with the possible exception of the *Dakota*, of 20,718 gross tons.

At the late session Congress provided, as generally understood, that after June 30, 1906, trade between the United States and the Philippines shall be restricted to vessels of the United States. To conduct that trade satisfactorily some new steel steamers must be ordered in the near future in American yards, especially for the Suez route.

DECLINE IN SQUARE-RIGGED SHIPPING.

For the first time since 1812 a fiscal year has passed without the building of a square-rigged ship in the United States. Our square rigged tonnage now amounts to only 320 vessels of 360,730 gross tons, a decline of 9 per cent in numbers and tonnage during the year. At the present rate of decrease this fleet will have totally disappeared in less than twenty years. The prospect of the early completion of the Panama Canal affords a new reason for not building such ships as a commercial investment. While the steady disappearance of this fleet does not materially affect commerce, it deserves attention for other reasons. The best nautical authorities, naval and mercantile, are agreed that training on a sailing ship is an essential qualification for the deck officer of an ocean steamer. Congress recently has accepted this view by appropriating $370,000 each for the building of two sailing ships as school ships for the future officers of the Navy. Abroad the North German Lloyd Steamship Company operates two four-masted barks as school ships for the future deck officers of its steamers.

Probably no American company has a fleet of steamers large enough to warrant the building, maintenance, and operation of a full-rigged ship for the sole purpose of training its future officers. Though helpful, the cadet system on American contract-mail steamers, provided by Congress, can not serve all purposes of nautical training. While the school ships *Enterprise* and *St. Mary's*, provided by Congress for some years past, are reported to be admirable institutions, they do not train in the handling of cargo, and the essentially naval character of the education acquired on them is not in all respects similar to the education and habits of thought and action required in the deck officer of a merchant steamer. The need of training ships for officers of the merchant marine will be more keenly felt each year, and in a short time some steps must be taken to provide for it. To answer adequately the purpose, such ships must actually engage in commerce. Cargoes must be handled, and the commercial regulations and customs of ports must be actually learned and followed in practice. It may be questioned, therefore, whether such training ships, if provided by Congress, as probably will be necessary in a few years, should not be attached to the Department of Commerce and Labor rather than to the Navy Department. Such an administrative detail need not delay action when Congress shall be convinced of its necessity. The subject is submitted this year for consideration, and, if desired, a specific plan may be offered in a later report. Such a plan must avoid the objections in principle to the conduct by a branch of the Government of the ocean transportation business in competition with private enterprise, yet at the same time must provide for training in such business.

TOTAL LOSSES OF AMERICAN VESSELS.

The American vessels reported by collectors of customs during the past fiscal year as total losses number 373, of 122,356 gross tons. The list of total losses is probably not complete. In some instances marine casualties are not officially reported until some time after the occurrence, as in the list printed are a few disasters which occurred before last year.

The vessels lost are classified as to rig and cause of disaster as follows:

Number and rig of lost vessels.

Rig.	Stranded	Collision.	Fire.	Foundered.	Abandoned.	Total.
Steam	32	2	51	27	.....	112
Sail	129	20	8	66	6	229
Unrigged	9	.....	6	15	.....	30
Total	170	22	65	108	6	371

Of two other sail vessels the cause of loss was not stated.

The number of steam vessels lost (112) is 1.3 per cent of the total number (8,463) of such vessels on June 30, 1904; the number of sail vessels lost (229) is 1.8 per cent of the total number (12,486) of such vessels on the same date, and the number of unrigged vessels lost (30) is a trifle less than 1 per cent of the 3,509 barges and canal boats documented at the end of the fiscal year. Following is a statement of the percentage of total losses for each kind of vessel attributed to the specific causes named:

Rig.	Stranded.	Collision.	Fire.	Foundered.	Abandoned.
Steam	29	2	45	24	.....
Sail	56	9	3	29	3
Unrigged	30	.....	20	50	.....

The subject of the comparative causes of disaster to American and foreign vessels was considered at some length in the Bureau's report for 1903. The figures above corroborate the conclusions deduced in that report. The proportion of steam vessels lost by fire, of sail vessels lost by collision, and of sail vessels and barges lost by foundering warrant no relaxation of the system of Government inspection. On the contrary, they suggest the propriety of a revision of our inspection laws.

LOSSES OF AMERICAN SEAGOING SAIL VESSELS.

Ninety-two American seagoing sail vessels and barges of 100 gross tons or upward are reported to have been lost during the fiscal year. These returns have been compiled from reports of the collectors of customs and the Life-Saving Service. They raise the question whether the time has not come for an extension of the system of Government

inspection to include certain classes of seagoing sail vessels, now exempt. By the act of December 21, 1898, the hulls of all sail vessels over 700 tons, and all such vessels and barges over 100 tons carrying passengers for hire, are now subject to Government inspection. Last year's casualties include 19 seagoing sail vessels over 700 tons, subject to inspection. The list of seagoing American sail vessels for June 30, 1903, shows 520 vessels of this class, the percentage of total loss of inspected sail vessels thus being 3.7 per cent. The year's casualty list includes 73 seagoing sail vessels under 700 tons and barges, the hulls of which were not subject to inspection by the Government. On June 30, 1903, there were 1,772 such vessels on the American code list, the proportion of uninspected seagoing sail vessels and barges lost thus being 4.1 per cent.

The measure often proposed in this country to prevent the loss of life and property at sea is a law establishing a load line corresponding to the British "Plimsoll mark," so called. The Bureau believes, however, that better results may be obtained by the simpler method of Government inspection of the hulls of certain classes of sail vessels.

The British merchant marine comprises a very large number of iron or steel steamers built chiefly for the purpose of carrying bulk cargoes. Doubtless the regulation by Government of the depth to which such vessels may be loaded is proper and probably necessary, but the American seagoing merchant fleet contains very few vessels of that type. It is made up principally of passenger steamers, tugs, and towing steamers, which tow barges with cargoes, and wooden sail vessels. Lumber furnishes the cargo for many sail vessels in the coasting trade, and the security of such vessels depends more on the manner in which the deck cargo is stored than on the depth to which the hull is immersed. Coal is transported to a great extent by barges in tow of steamers. These barges are frequently old square-rigged vessels which have been cut down. The weakness of the hull, usually consequent on age, is increased by cutting extensive hatches. Methods of towing and manning such barges are also doubtless responsible for some of the casualties to that type of vessel. An examination in detail of the particulars of seagoing vessels lost during the past will disclose few instances in which a load-line act would probably have been the most effective safeguard.

A satisfactory inspection of hulls by Government officers and the restraint of such as prove unseaworthy would undoubtedly tend to check the loss of life and property. An inspection of hulls of the entire seagoing American sail and barge fleet would be unnecessary and is not favored. The rule of the American Bureau of Shipping (Record for 1904, p. 211) provides:

> Vessels classed under this section can not receive term exceeding twenty-one years from date of build and will only be considered upon condition that vessel was originally built under inspection of the bureau, and when reports of continuous class and surveys, in accordance with rules, show that vessel has been kept in good order and condition.

When a vessel has reached, on account of age, a condition in which a private association deems it unwise to give it A1 class upon which to base marine insurance, it is neither arbitrary nor useless for the Government to ascertain through inspection whether the vessel should go to sea.

Of the 73 uninspected seagoing sail vessels and barges lost last year, 45 were over 20 years old. The Code List for 1903 named 998 seagoing sail vessels under 700 gross tons and seagoing barges built before 1885. The loss during the past year was thus 4.5 per cent. The remaining 28 sail vessels and barges lost were built since 1884, and of such the Code List for 1903 named 774. The proportion of newer uninspected vessels lost was thus only 3.6 per cent. As 3.7 per cent of inspected sail vessels were lost, the inspection of the hulls of such vessels under 20 years not now inspected does not seem to be required under present conditions.

At the last session of Congress, pursuant to a resolution of the Senate, the Bureau prepared a statement (S. Doc. 88, 58th Cong., 2d sess.) concerning the loss of American seagoing vessels during the fiscal year 1903. The following bill, based mainly on that document, was introduced by Mr. Perkins, of California, in the Senate, and is now pending before the Senate Committee on Commerce:

[S. 3861, 58th Cong., 2d sess.]

A BILL to provide for the inspection of certain seagoing sail vessels and barges, and to protect life and property at sea.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the owner of any seagoing sail vessel or seagoing barge of the United States of one hundred gross tons or over and over twenty years of age shall, at least once in every year, apply for the inspection of the hull of said vessel by the local inspector of hulls; and it is hereby made the duty of said inspector to inspect such vessel. If the inspector is satisfied that the hull of the vessel is suitable for the service in which she is to be employed, has suitable accommodations for the crew, and is in a condition to warrant the belief that she may be used in navigation with safety to life, he shall issue a certificate of inspection in a form to be prescribed by the Secretary of Commerce and Labor.

SEC. 2. That a register, enrollment, or license, clearance, or other paper shall not be issued by any collector or other chief officer of customs to any vessel described in section one unless at the time said vessel has in force a certificate of inspection as provided in section one. If any such vessel shall be navigated without such certificate of inspection the owner shall be liable to a penalty of five hundred dollars for each offense.

SEC. 3. That this act shall take effect on and after July first, nineteen hundred and four.

If the bill should commend itself to Congress, it will require the annual inspection of the hulls of 986 seagoing sail vessels and barges not now subject to inspection. The number of such sail vessels over 700 tons now subject to inspection is 511. The number of seagoing sail vessels under 700 tons and over 100 tons, and of seagoing barges, all under 20 years of age, which would not be subject to inspection would be 732. These figures are based on the number of vessels of these three classes named in the Code List for June 30, 1904.

REGISTRY OF REPAIRED WRECKS.

Section 4136 of the Revised Statutes, as amended by the act of July 5, 1884, provides:

The Commissioner of Navigation may issue a register or enrollment for any vessel built in a foreign country, whenever such vessel shall be wrecked in the United States, and shall be purchased and repaired by a citizen of the United States, if it shall be proved to the satisfaction of the Commissioner that the repairs put upon such vessel are equal to three-fourths of the cost of the vessel when so repaired.

The language of the section is not altogether clear, and its several important phrases have been interpreted by the Attorneys-General. The act was passed on December 23, 1852. On February 14, 1853, the Attorney-General held that salvage should be included in repairs, using this broad language:

> All the costs and charges from the first expenditures to recover a vessel from her wrecked, fixed situation to the last expenditure to put her in proper trim for use in restoring her to usefulness in earning freight as she was before she was wrecked seem to belong properly to the account of repairs made upon the vessel.

For half a century salvage has thus been included in repairs in the construction of this statute. Although the act specifically refers to any vessel "built in a foreign country" the Attorney-General, on April 16, 1860, held that it applied to a foreign vessel, if built in the United States.

In XV Opin. Attys. Gen., 402, the word "repairs" is construed to mean "new machinery, new appliances for her navigation, and other improvements introduced, whereby she became in many respects different from what she was originally."

In construing the words "purchased and repaired by a citizen of the United States" the Attorney-General has held that the words may be transposed so that a foreign vessel wrecked and repaired in the United States by her foreign owner and sailing for some years thereafter under foreign colors may then be purchased by an American citizen and admitted to registry.

These opinions have been followed uniformly for years by the Department, and have, accordingly, the validity of law, whatever view may be taken of their propriety in the first instance. These matters are mentioned because a reading of the precise words of the statute conveys at times a different meaning to the public from that given by the Attorney-General, adopted by the Department, and by uniform practice become law for the guidance of the Bureau. If Congress shall see fit to change the scope of section 4136 of the Revised Statutes, the Attorney-General's interpretations of the exact language of the section may be consulted.

The sole use made of the section is to secure the admission of foreign-built vessels to the coasting trade on advantageous terms. The operation of the act may be thus illustrated: A foreign vessel stranded in the United States may be sold for $25,000. To secure American registry $75,000 in repairs are required, bringing the total cost up to $100,000. If an American vessel were wrecked in the same manner and required the same $75,000 in repairs, its total cost would be greater. The wreck as such stands in a certain relationship to first cost. The first cost of the American vessel is greater than that of the foreign vessel. If the foreign wreck were sold for $25,000, the American wreck would doubtless be valued at $40,000; perhaps more. With $75,000 repairs added, its final cost would stand at $115,000, compared with $100,000 for the final cost of the foreign-repaired wreck. In practice the difference is probably even greater. As a rule, the demand for such wrecks is not large, and the price at which they are sold usually is low on account of the risk involved.

An entirely new American vessel of the same type as the $100,000 repaired foreign wreck would, of course, cost much more than $115,000. So far as the shipbuilding interest is concerned, the $75,000 in repair work—or less, for salvage is often to be included—is obtained at the sacri-

fice of a contract for a new vessel costing, say, $150,000, if it were a certainty that the purchaser of the wreck would build a new vessel if registry could not be obtained for the repaired wreck. There is, however, no such certainty. Often these wrecks are bought as "bargains," the purchaser seeing the opportunity for profit on a moderate investment in the repaired wreck which would not be open on the larger investment in a new vessel. The shipbuilders in such a case would stand to lose the new contract and the contract of $75,000 for rebuilding the foreign wreck, and would gain only a small contract for temporary repairs to carry the vessel abroad for complete restoration. Whether the act promotes or discourages shipbuilding in any given case can be determined only by a knowledge of the purpose and needs of the purchaser of the wreck. For the past two years there has been organized opposition to the admission to registry of foreign wrecks, either under section 4136 or by special act of Congress, due in part to the decline of work in seaboard shipyards. Of this section it has been said, "Its ultimate purpose was to aid American shipbuilding, and it was evidently considered by Congress that the rebuilding of three-fourths of a vessel was to be encouraged as well as the building of a vessel entire" (XX Opins. Attys. Gen., 253). If that view does not now appeal to the judgment of Congress, the repeal of the section would seem to be the natural step. Registry could then be obtained only by special act. From December 23, 1852, to June 30, 1904, 236,405 gross tons have been admitted to American registry under the general act, while 189,163 gross tons have been admitted by special acts of Congress, including 50,358 tons Hawaiian and 1,260 tons Porto Rican through annexation.

FOREIGN-BUILT DREDGES.

Attention is invited to the case of the foreign-built steam dredge *Holm*, now employed at Galveston. This vessel was designed by an American marine engineer, was built in Holland, and is the property of an American corporation. Special features in its construction adapt it for work at Galveston to prevent the recurrence of a disaster such as a few years ago overwhelmed that city. The *Holm* is described as a self-loading and self-discharging hopper dredge. She crossed the Atlantic under her own steam and entered Galveston on or about June 13, 1904. The Supreme Court of the United States in the case of the yacht *Conqueror* (166 U. S., 110) held that a foreign-built vessel, purchased by a citizen of the United States and brought into the waters thereof, is not taxable under the tariff laws of the United States. On entry the *Holm* paid tonnage tax at the rate of 50 cents per ton, as prescribed by section 4219, Revised Statutes, and light money at the rate of 50 cents per ton, as prescribed by section 4225, Revised Statutes, in all, $1 per ton as "a vessel not of the United States," plus the usual 6 cents on a vessel from Europe. On entry the *Holm* thus paid in all $237.44 on her tonnage of 224 net tons. Since entry the *Holm* has been engaged in dredging at Galveston. It has been contended that the use of the dredge is contrary to the spirit of the law which restricts the coasting trade to vessels of the United States and is expressly prohibited by law. Section 4347 of the Revised Statutes, as amended, provides:

> No merchandise shall be transported by water under penalty of forfeiture thereof, from one port of the United States to another port of the United States, either

directly or via a foreign port, or for any part of the voyage, in any other vessel than a vessel of the United States. But this section shall not be construed to prohibit the sailing of any foreign vessel from one to another port of the United States; provided, that no merchandise other than that imported in such vessel from some foreign port, which shall not have been unladen, shall be carried from one port or place in the United States to another.

The collector of customs at Galveston has reported "The station of her (the *Holm's*) work is upon private property, real estate leased for that purpose from the owners, and upon the public streets of the city of Galveston within that territory. There she is now excavating a temporary canal or ditch, using the sand of the excavation as backfilling to the sea wall." The earth dug by the *Holm* is at once banked back of the sea wall. Up to the present time, nothing appears to have been "transported by water" by the *Holm* at Galveston, which could be forfeited. It is not necessary now to consider, therefore, whether the sand, etc., dredged by the *Holm*, if transported by her to another place, would become subject to forfeiture, and, if so, whether such forfeiture would stop her operations. Should such "transportation" become necessary, possibly undocumented lighters could be used under section 4385, Revised Statutes.

The *Holm* case is of some importance as a precedent. Dredges capable of navigating under their own steam for considerable distances at sea have been built in American shipyards. The large amount of river and harbor dredging always in progress under acts of Congress or by local authorities will require an increasing number of such vessels. If foreign-built dredges like the *Holm* can enter American ports on payment of alien tonnage taxes of $1 per ton, come to anchor and dredge harbors and rivers, dumping the material dredged into documented or undocumented scows to be transported elsewhere, the spirit of our laws appears to be violated, though diligent search fails to disclose any act under which a specific penalty may be imposed. If Congress should deem proper, a brief act could be passed in the following terms:

AN ACT concerning foreign-built dredges.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That a foreign-built dredge shall not, under penalty of forfeiture, engage in dredging in the United States, unless documented as a vessel of the United States.

If necessary, the act could in terms make an exception of the *Holm*, the owners of which are understood to have a contract with the Galveston authorities.

REPORTS OF SHIPPING COMMISSIONERS.

United States shipping commissioners are now stationed at twenty seaports of the United States. The only change in ports made during the fiscal year was by the abolition of the office at Wilmington, N. C., on July 13, 1903, the business done not warranting the continuance of the office.

Collectors of customs acting as shipping commissioners at other ports shipped 3,246 seamen and discharged 2,760, the number shipped and discharged at any one port not being sufficient to warrant the establishment of a shipping commissioner's office, as the collectors at these ports are not apparently overtaxed with customs business.

The following table shows the increase in the routine work of shipping commissioners during the past ten years:

Work of shipping commissioners.

Year.	Seamen shipped, reshipped, and discharged.	Expenses.	Average.	Year.	Seamen shipped, reshipped, and discharged.	Expenses.	Average.
			Cents.				*Cents.*
1895	118,493	$61,511.70	52	1900	142,682	$55,619.13	39
1896	130,327	63,769.98	49	1901	160,377	59,379.84	37
1897	119,807	64,034.71	53	1902	176,836	58,988.36	33
1898	116,215	58,387.57	50	1903	197,918	60,938.79	30
1899	122,468	53,651.45	44	1904	201,273	61,548.12	31

NATIONALITY OF CREWS OF AMERICAN VESSELS.

The men shipped and reshipped (including repeated voyages) by United States shipping commissioners on American vessels during the past two fiscal years were classed by nationality as follows:

Nationality.	1903.	1904.	Nationality.	1903.	1904.
Americans (born)	36,761	34,125	Danes	1,571	1,438
Americans (naturalized)	22,787	21,425	Russians	3,839	3,237
British	14,483	13,868	Austrians	1,181	914
Chinese	766	187	French	629	584
Japanese	615	446	Spanish	7,655	8,647
Filipinos	126	36	Italians	2,644	2,979
Germans	5,280	4,087	Portuguese	3,785	3,475
Norwegians	7,615	6,956	Others	4,702	4,923
Swedes	6,268	5,498	Unknown	128	132

Those classed as "Others" are principally natives of Central and South American States, Mexicans, Cubans, and natives of the various West Indian Islands.

The form of agreement or shipping articles provided by Congress (Navigation Laws for 1903, p. 88) provides that the birthplace of the seaman shall be stated. Returns based on these articles accordingly take no cognizance of the large number of seamen of foreign birth who have become naturalized Americans. Of late years the Bureau has instructed shipping commissioners to note the fact of naturalization on the articles after the birthplace. This fact must be borne in mind in reading the following table of the classification of seamen for the past ten years:

Nationality of men (repeated shipments) shipped.

Nationality.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.
Americans	21,881	23,142	22,329	26,210	23,108	32,333	34,601	49,921	59,498	55,550
British	11,552	15,308	13,145	13,046	13,897	18,480	18,930	13,909	14,483	13,868
Germans	11,056	9,913	8,131	9,885	6,768	8,449	8,624	5,641	5,280	4,087
French	871	767	552	513	543	635	622	576	629	584
Scandinavians	24,182	21,026	17,601	15,529	16,438	16,735	17,914	16,317	15,454	12,454
Italians	1,370	1,312	1,184	908	897	1,186	1,903	2,297	2,644	2,979
Others	8,502	8,455	8,036	8,562	10,254	12,507	16,374	19,898	22,797	23,435
Total	76,990	79,913	73,853	72,643	76,905	90,325	98,968	108,554	120,785	112,957
Per cent Americans.	28	29	30	36	31	36	35	46	49	49

The proportion of native-born American seamen has not materially increased during this period. The proportion of naturalized American seamen has undoubtedly increased, owing to the operations of the ocean-mail act of 1891 and the immigration laws, and also to the increased membership of the seamen's unions of the Atlantic and Pacific coasts, which prescribe citizenship or the declaration of intent to become a citizen as a condition of membership. Possibly part of the membership of that organization does not conform to its constitution.

DESERTION OF SEAMEN.

Reports of shipping commissioners show that during the year 112,957 men signed articles, counting repeated voyages, to serve on American vessels, and 3,847 failed to join. The proportion who failed to join (3.4 per cent) shows a satisfactory decrease compared with the preceding year, when the proportion of failures to join was 4.3 per cent. Reports of consuls, covering the number of seamen for American vessels shipped and discharged in foreign ports and the number of desertions, show that only 453 men deserted from American steamers in foreign ports, which carried crews numbering 108,909 on repeated voyages. From American sail vessels, with crews of 8,321 men, there were only 309 deserters. In some instances this year consuls have not included in their returns American vessels visiting their ports from which no men were discharged or deserted and for which none were shipped. If these had been included, as was done the previous year and was desired this year, the proportion of deserters abroad would doubtless be approximately the same as failures to join at home.

The desertion abroad and failure to join at home of 3 or 4 seamen out of every 100 may be accounted for to a very great extent by special circumstances or individual inclination or habit which can not be corrected by general legislation. At least for the present a change in the laws on the subject, therefore, does not seem desirable. The returns above cover only portions of the coasting trade, and in this trade quitting the ship and failure to join are undoubtedly more frequent. The law does not require the shipment and discharge of crews in this trade by shipping commissioners, and precise figures can not be supplied. Since 1898 it has been optional with seamen in the coasting trade to observe their contracts or not, as penalties for failure to join or continue service were then abolished. Embarrassments have undoubtedly arisen from time to time, as in any other industry when employees strike. Similar embarrassments arose before the law was changed. The coasting trade, however, is reserved entirely to American vessels, and the embarrassments alluded to do not affect our ability to compete with foreign shipping. Changes in the laws regarding seamen in foreign trade, on the other hand, may materially affect our ability to compete.

EXPENSES OF SHIPPING COMMISSIONERS.

In accord with the decision of the Supreme Court of the United States, Congress included in the last sundry civil appropriation bill the following paragraph:

> Contingent expenses, shipping service: For rent, stationery, and other requisites for the transaction of the business of shipping commissioners' office, seven thousand dollars; and this sum shall be in full for all such expenses for the fiscal year nineteen hundred and five, and shall be so disbursed as to prevent a deficiency therein.

A similar item has been included in the Department estimates, and its approval by Congress is favored for the same reasons as in former years. The work of commissioners could probably be extended to advantage in some directions, but additional expense would be involved.

ALLOTMENT NOTES.

During the year 3,479 seamen's allotment notes to creditors and 287 to relatives were approved by shipping commissioners. Seamen on American steam vessels have practically ceased to use allotment notes, except at the port of San Francisco, where 1,059 out of a total of 1,279 notes for creditors of seamen on steam vessels were issued. If the allotment law applied only to American vessels the allotment system could be virtually abolished, so far as seamen on steam vessels are concerned, by a reduction of the legal amount of the note to a nominal sum by the Commissioner of Navigation. For reasons set forth in the decision of the Supreme Court of the United States in the Eudora case, that law must be applied to the seamen shipped in the United States for foreign as well as for American vessels, except where treaties otherwise provide. Accordingly it has seemed best to move with caution in the line of further reduction of allotments. The spirit of the law and the purpose of the officers charged with its enforcement aim at the gradual abolition of the system so far as creditors are concerned. To the attainment of that end no further legislation is necessary. In the main the law has justified the expectations of its advocates, and each year its enforcement is believed to be more effective.

Only 287 allotment notes in favor of dependent relatives were asked for by seamen in those trades in which such notes are permitted by law. The number is very small—less than 2 per cent of the legal opportunities for the use of such notes. This fact is discouraging to the advocates of the establishment in this country of the system of transmission of seamen's wages established in Great Britain. If only 2 per cent of our seamen care to make use of a secure and established method of placing part of their wages at the disposal of wives, parents, or children, the proportion who would make use of a transmission method similar to the British would doubtless be very small. More than half the seamen employed on American vessels are not citizens, have no intention of becoming such, and are without domestic ties binding them to this country. On British ships, on the other hand, the large majority of seamen are still British subjects, though the foreign element is increasing. Home ties, on which the need of a wages transmission system and its success depend, are much more general in the case of seamen on British than on American ships. For these reasons the Bureau has hesitated to comply with requests from influential and useful philanthropical societies that it recommend the establishment of a system here similar to the British. Through the courtesy of British officers, particularly Mr. Walter J. Howell, under secretary for marine affairs, the Bureau has been furnished with information concerning the British system and with the blanks used to carry it out. By this system the seamen's wages transmitted from ports of the United Kingdom during the British fiscal year 1903 amounted to £193,553; from foreign ports, to £61,531.

Should Congress desire to establish such a system, a project will be drafted for its consideration. More general use of allotment notes in

favor of relatives would to a great extent accomplish the object desired. The shipping commissioners at various ports undoubtedly stand ready to cooperate with philanthropical societies in encouraging the use of such allotments. The establishment of a seamen's savings-bank system under Government control similar to the British system has also been proposed. The Bureau is not prepared with the information before it to commit itself to the proposition. Besides considerations already offered, it should be borne in mind that the British Government maintains a post-office savings bank in which the interest credited to depositors amounted during 1903 to £3,458,878. The seamen's savings-bank system is a natural part of the British governmental system. The establishment of a Government seamen's savings-bank system in this country involves at the outset accordingly a large question of policy on which an opinion from the Bureau will not be expected, as well as the question of practical use. For the year 1902–3 deposits in the British seamen's savings banks amounted to £91,779.

PROSECUTION OF CRIMPS.

Through the cooperation of the Department of State and the Department of Justice, efforts to check crimping, contemplated in last year's report, have been fairly successful. Where complaints of crimping or "shanghaiing" have been made to American consuls, the essential facts have been promptly transmitted to the Bureau, the departure of the seaman desired as a witness has been cabled, and the witness has been met on arrival by a customs officer who has taken him at once before the nearest United States attorney for examination.

Through the consuls, 20 cases of alleged violations of the act of December 21, 1898, involving crimping, have been brought to the notice of the Bureau during the past fiscal year. In all of these cases the vessel involved was under a foreign flag. The crimping system, as applied to American vessels, has been considerably weakened since 1899. Of these 20 cases, 16 were at Atlantic coast ports south of New York and at Gulf ports. The same principle was involved in three cases at Savannah, Ga., and was sentenced to five years' imprisonment in the Atlanta penitentiary and a fine of $5,000. Conviction was secured in this case under section 5525 of the Revised Statutes, which reads:

> Every person who kidnaps or carries away any other person with the intent that such other person be sold into involuntary servitude, or held as a slave; or who entices, persuades, or induces any other person to go on board any vessel or to any other place with the intent that he may be made or held as a slave or sent out of the country to be so made or held; or who in any way knowingly aids in causing any other person to be held, sold or carried away to be held or sold as a slave, shall be punished by a fine of not less than five hundred nor more than five thousand dollars, or by imprisonment not more than five years, or by both.

The application by the court of this statute to "shanghaiing" cases reenforces the instrumentalities to give effect to the laws for the protection of seamen, and attention is particularly invited to Judge Speer's charge to the jury, in which the terms of the statute are defined. In one case at Pensacola three crimps were sentenced each to eighteen months' imprisonment and a fine of $1,000. These successful prosecutions have had a salutary effect not only in the immediate localities concerned, but at other ports at which the Bureau has caused these cases to be brought to the attention of seafaring men.

In four cases an examination of the witnesses convinced United States attorneys that there was not sufficient evidence on which to institute proceedings and the cases were dropped. No proceedings were instituted in another case, owing to the wreck of the vessel involved, and the suicide of the principal witness in another case prevented any action. In one case a fine of $100 was imposed, but could not be collected. Four cases have been awaiting the arrival in this country of witnesses, and three cases, according to the latest advices of the Bureau, are pending in the courts.

The net result of these proceedings has been satisfactory so far as to warrant a continuation of the method of prompt reports by consuls with advance cable notices of the place and probable time of arrival of witnesses in this country. Some embarrassment has arisen from the fact that the form of the appropriation for distressed American seamen does not provide for the return to the United States of such seamen when left destitute abroad by foreign vessels. The amount of the present appropriation would probably suffice to provide for such meritorious cases should Congress see fit to extend the scope of the appropriation.

SAIL AREA AND MANNING.

Information regarding the sail area, gross tonnage, and total crews of 312 typical American sail vessels of various rigs and tonnages on the Atlantic and Pacific coasts was obtained from collectors of customs at the request of representatives of the Seamen's Union for its possible bearings on questions relating to the manning of vessels.

These returns of sail area illustrate the difficulty in securing a general basis on which to frame laws or regulations for the adequate manning of vessels. The objections to tonnage as the basis of a statutory manning scale are evident. The number of men required to navigate a vessel does not, of course, increase in any definite ratio with the increase in size. On steamers the number of firemen can be fixed with entire accuracy by the amount of coal to be handled, subject to the qualification that in hot climates more men and a different kind of men are needed than on the North Atlantic. The number of oilers and engineers, in a similar fashion, will stand in some relationship to the power and extent of the engines. These matters are entirely distinct from the tonnage of the vessel.

Roughly speaking, indicated horsepower is the basis by which the number of men required to manage the propelling power of a steamer may be fixed. When sails furnish the motive power the number of men required to handle the sails is the number of men required for the propelling power, regardless of the tonnage of the vessel. The sail area is thus a better basis than gross tonnage, though sail area must be considered with reference to rig.

The same sail area on a square-rigged vessel for obvious reasons will require more men than on a fore-and-aft rigged vessel. So many sail vessels are equipped with engines for hoisting and lowering anchors, sails, etc., that sail area alone will not serve as a basis on which to determine the necessary number of men. General conclusions, based on the returns, accordingly are liable to be as uncertain as conclusions based on tonnage, and none accordingly are attempted.

In 1894 a special commission appointed by the British Board of Trade, under the presidency of Mr. Mundella, investigated the manning of British vessels. This committee's report gives the manning scale for British steamers and sail vessels recommended ten years ago, on which, however, no action appears to have been taken. These British manning scales have been incorporated in the bill, embodying the views of the Seamen's Union, now pending in Congress. A bill relating to manning steam and sail vessels is also pending before the parliament of the Commonwealth of Australia. The provisions express the views of the labor organizations of Australia.

The three propositions—American, British, and Australian—to base the number of the crew on the tonnage of the ship, have been pending before legislative bodies for from two to ten years and have not secured legislative sanction. The fact is possibly due more to the belief that tonnage is not the best basis for determining the number of the crew, rather than to opposition to any method of regulating the minimum number of men to be carried on vessels of various types and in various trades.

In the United States the only authority for regulation of the number of the crew on a vessel is found in section 4463, Revised Statutes, which reads:

> No steamer carrying passengers shall depart from any port unless she shall have in her service a full complement of licensed officers and full crew, sufficient at all times to manage the vessel, including the proper number of watchmen. But if any such vessel, on her voyage, is deprived of the services of any licensed officer without the consent, fault, or collusion of the master, owner, or any person interested in the vessel, the deficiency may be temporarily supplied, until others licensed can be obtained.

Under this section it has been the practice of local inspectors of hulls and boilers to insert in the certificate of inspection of a steam vessel the number of mates, engineers, firemen, etc., deemed by them "a full complement." The Attorney-General has recently held, however, that such requirements by local inspectors are not authorized by statute, the power to fix the number of the crew being lodged by Congress in the Board of Supervising Inspectors, which convenes once a year.

Should Congress deem it advisable to legislate concerning the manning of vessels of the United States, it is suggested that, at least at the outset, such legislation should vest in an administrative officer the power of framing and enforcing regulations subject to certain statutory conditions. The Secretary of Commerce and Labor is naturally the officer in whom such power would be lodged. He is continuously on duty, while a board necessarily convenes only from time to time. Such a bill might provide, for example, that the Secretary of Commerce and Labor shall fix the number of firemen and trimmers in steamers in such manner that during twenty-four hours a man shall not be required to handle more than ——— tons of coal; that on fore and aft rigged sail vessels the number of seamen shall not be less than one for each ——— square feet of canvas, except where sails are set and lowered by machinery, when the number of seamen shall not be less than one for each ——— square feet of canvas, with a corresponding rule for square-rigged vessels. The desirability of establishing a differ-

ent minimum for seagoing vessels than for vessels on the Great Lakes and rivers needs merely to be suggested here. Such a measure, carried out in further detail as to mates, engineers, and carpenters, where needed, and other ratings would be more satisfactory than any measure based solely on tonnage, which must, from the nature of the case, work unequally and unsatisfactorily.

TONNAGE TAXES.

The collections of tonnage taxes during the fiscal year amounted to $826,023.01, a decline of $59,818.32 compared with the previous year, in which the largest sum was collected since the tonnage-tax law was changed in 1884. The decline is due partly to a decrease of 1,141,253 net tons in shipping entered from foreign ports, compared with the previous year's entries. Even with an equal tonnage of entries from year to year, however, the tendency is toward diminishing tonnage tax receipts as steamers supersede sailing vessels. For example, the law imposes a tax of 6 cents per net ton on a vessel entering from a European or other remote port, but as the total tax levied during a year is by statute limited to 30 cents per net ton the vessel becomes exempt from tax after its fifth entry.

A trans-Atlantic passenger liner makes from ten to twelve entries annually, and in some instances more, so that half or more of its entries are exempt from tax. This exemption for part of the year is equivalent to a reduction in the average rate paid during the whole year, the vessel which pays 30 cents for twelve entries practically paying at the rate of 2½ cents. In effect the law thus gives the premium of a lower tax rate to speed and regularity, and imposes the higher rate on the slower sail vessel and the irregular tramp steamer. As these two types are gradually restricted by the increasing business of established steam lines, reduction in tonnage receipts even on an equivalent volume of tonnage entries must follow. Last year American vessels paid only $70,741.65 in tonnage taxes, while vessels under the British flag paid $470,422.38 and German vessels $121,622.13. Much American capital is invested in shipping under the British flag, so that the flag does not necessarily indicate the nationality of the taxpayer. The question of the ultimate incidence of the tax is not here considered.

RECIPROCAL TONNAGE-TAX EXEMPTION.

Since 1895 the Bureau has recommended the repeal of the law exempting from tonnage taxes in ports of the United States vessels from foreign countries, islands, and ports which extend to vessels of the United States a like exemption. The law is found in section 11 of the act of June 19, 1886, which reads:

> The President of the United States shall suspend the collection of so much of the duty herein imposed on vessels entered from any foreign port as may be in excess of the tonnage and light-house dues, or other equivalent tax or taxes imposed in said port on American vessels by the government of the foreign country in which such port is situated, and shall, upon the passage of this act, and from time to time thereafter as often as it may become necessary by reason of changes in the laws of the foreign countries above mentioned, indicate by proclamation the ports to which such suspension shall apply, and the rate or rates of tonnage duty, if any, to be collected under such suspension, etc. (Navigation Laws, p. 140.)

Some good reasons may be advanced for the abolition of all tonnage taxes in the United States; good reasons may also be advanced for an increase in some of the rates of tonnage taxes and changes in the methods of collecting them. No convincing reason for the law under consideration has ever been brought to the notice of the Bureau. If its purpose were to induce other nations to repeal corresponding taxes on shipping, it has failed, for though in force nearly twenty years, its effects on foreign legislation have been inconsiderable. As a rule the revenue requirements of foreign nations have not permitted the reduction or abolition of taxes so readily collected and equitably distributed as are taxes on net tonnage at entry. If its purpose were to secure for American vessels special exemptions in foreign ports it has been equally a failure, for the foreign ports at which no taxes corresponding to our tonnage taxes are levied, with some exceptions, are seldom visited by American vessels.

Thus vessels entering the United States from ports of the Netherlands are exempt from tonnage taxes. During the fiscal year 1903, 253 vessels, of 837,295 net tons, entered the United States from the Netherlands, and were exempt from tonnage taxes, amounting approximately to $42,000. None of these vessels were American. No American vessels cleared for the Netherlands during that year, so that the reciprocal arrangement with that nation did not secure a dollar's worth of exemption to an American vessel in either country, while the United States gave to foreign shipping an exemption of about $42,000. In the same fashion vessels entering the United States from Copenhagen, Denmark, are exempt. No American vessels during the fiscal year 1903 entered from or cleared for Denmark at our ports, so the arrangement with Denmark brought no exemption to American vessels. The foreign tonnage entering from Copenhagen is not separately stated, but the foreign tonnage entering from all Denmark during the fiscal year 1903 amounted to 69 vessels, of 164,405 net tons, involving a tonnage-tax exemption of approximately $8,000. The total amount involved in the present arrangement with the Netherlands and Denmark, about $50,000, relatively speaking, is small.

The application of the reciprocity law under consideration to all foreign countries last year would have secured for American vessels exemption from $70,741.65 in tonnage taxes in the United States, for foreign vessels from $755,281.36, with corresponding exemptions for each in foreign ports. The law evidently does not provide a fair exchange of benefits. Its repeal would add about $85,000 to our annual revenues directly payable almost wholly by foreign shipping and remove a discrimination for which there is no apparent commercial reason. Under existing law our revenue from tonnage taxes is subject to a reduction of from $275,000 to $300,000 at any time when the British House of Commons and local authorities shall see fit to abolish British light dues and local charges corresponding to our tonnage taxes. The bill to abolish light dues was defeated in the House of Commons in April, 1903, by the narrow margin of 103 to 114, chiefly because the condition of the revenues after the Boer war did not seem to the Government to warrant the reduction proposed. The same bill is now before the House of Commons, and of its ultimate passage there seems to be no doubt.

BRITISH TONNAGE TAXES.

The reciprocity section of the American law already quoted is the extreme of liberality. Further, tonnage taxes generally are lower in the United States than corresponding taxes abroad. The United States imposes a tax of 3 cents per net ton on vessels arriving from ports in North America, Central America, the West Indies, Bahamas, Bermudas, South America bordering on the Caribbean, and Newfoundland, payable not over five times during a year, the maximum annual tax thus being 15 cents. Vessels from more remote ports pay at the rate of 6 cents, the maximum tax being 30 cents. The rates of British light dues, corresponding to our tonnage taxes, were materially reduced by the act of Parliament which went into effect on April 1, 1899. Before that date such dues were collected according to the British light-houses passed by the vessel paying them. The system was elaborate and resulted in taxation materially higher in nearly every instance than American tonnage duties. The essential features of the light-dues act, which went into effect in April, 1899, are:

Scale of payments.

1. 1d. per ton per voyage for home-trade sailing ships.
2. 2¼d. per ton per voyage for foreign-going sailing ships.
3. 1½d. per ton per voyage for home-trading steamers.
4. 2¾d. per ton per voyage for foreign-going steamers.
5. An annual payment in the place of payments per voyage of 1s. per ton for tugs and pleasure yachts.

Rules.

1. A ship shall not in any year be required to make payments on account of light dues:
(*a*) If the ship is a home-trade ship, for more than 10 voyages; and
(*b*) if the ship is a foreign-going ship, for more than 6 voyages; and
(*c*) if the ship makes voyages during the year both as a home-trade and as a foreign-going ship for more than 10 voyages, counting each voyage made as a foreign-going ship as a voyage and a half.

Provided, That no steamer shall be required to pay more than 1s. 4½d. per ton, and that no sailing vessel shall be required to pay more than 1s. 1½d. per ton in any year.

Besides these general charges, at some British ports local charges are imposed on shipping, corresponding in essence to our tonnage taxes. The corresponding taxes imposed at Bremen, Hamburg, and other continental ports are higher than British charges and considerably higher than American.

TRADE WITH THE PHILIPPINES.

By the act approved April 15, 1904, Congress removed the principal uncertainties concerning vessels to be employed in trade with the Philippines on which were based the recommendations for legislation in last year's report. Section 7 of that act provides:

That this act shall not be construed to impair or affect any privilege guaranteed to Spanish ships and merchandise by the treaty of peace between the United States and Spain signed at the city of Paris on December tenth, eighteen hundred and ninety-eight, and ratified April eleventh, eighteen hundred and ninety-nine.

The precise privileges guaranteed to Spanish ships and merchandise by the treaty of Paris may be satisfactorily determined before July 1,

1906, when the act of April 15, 1904, will take effect and any remaining doubts removed. The design of the act is to restrict to vessels of the United States the transportation of merchandise and passengers between ports of the United States and of the Philippines after the date specified. Assuming an improvement in the ocean transportation business the world round by July, 1906, probable, after recent years of depression, the act of April 15 will require the building of some steamers in this country adapted for Philippine trade and especially for the Suez Canal route. Under that act, to secure satisfactory passenger arrangements, it will be desirable to establish a line of steamers of American register between Manila and Hongkong to enable passengers to make the necessary all-American voyage when traveling to the Pacific coast by American steamers, making Hongkong a terminal port. The subject is mentioned thus early, as eighteen months is not too long a time in which to assemble the capital and build the type of steamer required for this special and somewhat uncertain trade.

TRADE WITH PANAMA CANAL ZONE.

The beginning of canal construction on an enlarged scale in the Panama zone under American control will raise the question of the regulation of vessels in trade between ports of the United States and the zone. Indeed, the matter was mentioned in the Senate near the close of the last session (Cong. Record, vol. 38, pp. 5067–5073), but for obvious reasons action was postponed until the coming session. The laws of the United States regulating the coasting trade were applied to trade between the United States and Porto Rico and Hawaii soon after American occupation. Under normal conditions a similar application of the coasting laws to trade between the United States and the canal zone might be expected at the coming session of Congress, if the status of the canal zone is to resemble that of Porto Rico. It would undoubtedly be a beneficial measure for American shipping and shipbuilding at a time when such benefit is needed. The status of the zone, however, depends in part on the interpretation of the treaty. Until the canal is completed the greater part of the men and material transported from the United States to the canal zone will be sent for construction purposes. Probably most of the construction will be done by private contract. The affairs of the canal zone, by executive order, are administered by a commission, responsible to the War Department. That commission and that Department will have for the next few years the largest interest in the trade between the United States and the zone, and, of course, can use such shipping as they see fit. The recommendation that the coasting laws be applied to that trade, which under ordinary conditions would be made in this report, is withheld for the reasons stated.

MERCHANT-MARINE COMMISSION.

In his annual message to Congress, dated December 7, 1903, the President of the United States stated:

> A majority of our people desire that steps be taken in the interest of American shipping, so that we may once more resume our former position in the ocean-carrying trade. But hitherto the differences of opinion as to the proper method of reaching this end have been so wide that it has proved impossible to secure the adoption

of any particular scheme. Having in view these facts, I recommend that the Congress direct the Secretary of the Navy, the Postmaster-General, and the Secretary of Commerce and Labor, associated with such a representation from the Senate and the House of Representatives as the Congress in its wisdom may designate, to serve as a commission for the purpose of investigating and reporting to the Congress at its next session what legislation is desirable or necessary for the development of the American merchant marine and American commerce, and incidentally of a national ocean mail service of adequate auxiliary naval cruisers and naval reserves. While such a measure is desirable in any event, it is especially desirable at this time, in view of the fact that our present governmental contract for ocean mail with the American Line will expire in 1905. Our ocean-mail act was passed in 1891. In 1895 our 20-knot trans-Atlantic mail line was equal to any foreign line. Since then the Germans have put on 23-knot steamers, and the British have contracted for 24-knot steamers. Our service should equal the best. If it does not the commercial public will abandon it. If we are to stay in the business it ought to be with the full understanding of the advantages to the country on the one hand and on the other with exact knowledge of the cost and proper methods of carrying it on. Moreover, lines of cargo ships are of even more importance than fast mail lines, save so far as the latter can be depended upon to furnish swift auxiliary cruisers in time of war. The establishment of new lines of cargo ships to South America, to Asia, and elsewhere would be much in the interest of our commercial expansion.

In general accord with that recommendation, Congress at the recent session passed the act of April 28, 1904, creating the Merchant Marine Commission of five members of the Senate of the United States and five members of the House of Representatives of the United States. The second section of the act provides:

SEC. 2. That it shall be the duty of this commission to investigate and to report to the Congress on the first day of its next session what legislation, if any, is desirable for the development of the American merchant marine and American commerce; and also, what change or changes, if any, should be made in existing laws relating to the treatment, comfort, and safety of seamen, in order to make more attractive the seafaring calling in the American merchant service.

The reports of the Bureau for some years have considered in more or less detail the questions involved in the admission to American registry of foreign-built vessels for foreign trade, generally known as "free ships," of subsidies in the form of ocean-mail contracts, admiralty subventions and navigation and construction bounties, and of discriminating duties. In view of the report of the commission to Congress at an early day, which will doubtless consider these and other matters, it has not seemed necessary again to consider them fully in this year's report of the Bureau. The more important ocean-mail contracts of Great Britain, Germany, France, and Japan, published in recent reports of the Bureau, are still in force. For convenience of reference they may be thus summarized:

Flag.	Contractor.	Period of contract.	Annual amount.
British	Peninsular and Oriental	1897–1905	$1,603,800
Do	Cunard	1903–1923	1,059,480
Do	Union-Castle	1900–1910	656,100
Do	Orient	1898–1905	413,500
Do	Royal Mail	1900–1905	388,800
Do	Pacific Steam Navigation	1900–1910	157,950
Do	Elder Dempster (Jamaica)	1901–1911	194,400
German	North German Lloyd	1899–1914	1,330,420
Do	East African Company	1901–1916	321,300
French	Messageries Maritimes	1895–1912	2,406,569
Do	Compagnie Générale Trans-Atlantique	1901–1911	1,289,240
Japanese	Nippon Yusen	1900–1909	2,362,148
Total			12,183,707

Although the new Cunard contract was entered into in 1903, it will not be in full force until the two new 24½-knot steamers, to be built with funds advanced by the British Government, are completed and in operation, possibly late in 1905, probably during 1906. The British contract with the Peninsular and Oriental Steamship Company will expire on February 1, 1905, but has been provisionally extended for three years from that date, with the requirement of twenty-four hours increased speed on the outward and homeward voyage to India and eastern colonies. In the meantime a British interdepartmental committee has examined the field covered by the ocean mail operations of the Peninsular and Oriental and a new contract will be entered into later. On the subject of the Australian contract of that company, the British postmaster-general says:

> In the case of Australia it is to be regretted that in consequence of the decision of the Commonwealth legislature not to be a party to any mail contract which admits of the employment of colored labor on board the packets, it no longer falls to the British post-office to provide, on behalf of the mother country and the Commonwealth jointly, a weekly service. The contract with the Peninsular and Oriental Company is for a fortnightly service only to and from Australia; and, in maintaining that arrangement and leaving the Commonwealth to arrange for a similar alternating fortnightly service in both directions, the Imperial Government is, in the circumstances, doing all that can be legitimately demanded of it.

Under normal conditions a new element would have entered into the consideration of some of the principal foreign ocean mail contracts by the establishment of a mail service on the Trans-Siberian Railway from St. Petersburg to Port Arthur. That service had barely been established when it was interrupted by the outbreak of war between Japan and Russia. With the restoration of peace the most expeditious method of sending mails from the capitals of western Europe to China and Japan will be by the Trans-Siberian Railway. Among the heaviest subsidies now paid are those to the British Peninsular and Oriental for its mail service to Hongkong, to the German North German Lloyd for its mail service to China and Japan, to the French Messageries Maritimes for its service to China and Japan, and to the Japanese Nippon Yusen Kaisha for its service from Japan to western Europe, all by the Suez Canal route. These subsidies can not be maintained as necessities of mail services respectively when the railroad across Asia offers much better dispatch. If existing contracts should be renewed it would necessarily be on the ground that the steamships should be maintained on national grounds, and that even in the mail service it is not desirable that British, German, French, and Japanese mails should be intrusted to other than national agencies. Such appears to be the view of the British Government, for the British postmaster-general, referring to the interrupted arrangement with the Trans-Siberian Railway, says:

> Notwithstanding the onerous conditions imposed, it was felt that it would not be right to debar the public in this country from the use of the new route; and, therefore, with your Lordship's concurrence, arrangements were made forthwith for the transmission by it of letters and post cards *specially directed to be so sent.*

The report of the British postmaster-general shows that the expenditures during the British year ended March 31, 1904, for the British foreign and colonial ocean mail service were £805,322 ($3,913,865). These figures do not include some of the colonial arrangements, the principal omission being the contract of the Cape Colony with the

Union-Castle Line for £135,000 ($656,100). Up to 1897 the reports of the postmaster-general showed the estimated receipts from British sea postage, and for that year stated the estimated British loss on the ocean mail service at £439,900 ($2,137,914). These figures have not been included in the British reports since 1897, so the loss on the ocean mail service is a matter of conjecture here, though doubtless indicated in the unpublished accounts of the British post-office.

For the current year British estimates include appropriations for £404,500 ($1,965,870) for naval reserves, almost wholly to be expended for the services of men in the mercantile marine.

NAVIGATION BOUNTIES.

The recent changes in foreign navigation bounty systems have not been considerable, the principal one being in France, where a limit has been put on expenditures for sail vessels. As under the French system the navigation bounties to sail vessels were paid at substantially the same rates as the United States pays for its trans-Atlantic American line mail service of 20-knot steamers, a limit to French expenditures was ultimately a certainty.

A contract has been made for a steamship service between Canada and Mexico. For this service the Dominion parliament voted $50,000 and Mexico has appropriated $120,000 Mexican, equal to $55,000 gold. This Canadian-Mexican joint subsidy is a commercial and navigation bounty, for it can hardly be contended by anyone that 10-knot steamers can carry the mails between these countries in competition with American railroads and mail steamers.

The consul-general at Ottawa on October 17, 1904, reported that both Governments are willing to pay $100,000 Mexican and $50,000 gold for the Pacific service alone. Negotiations are pending to determine whether one of the Governments will increase the subsidy offered, in view of a tender by a British company for the Pacific route for a sum somewhat above $105,000.

DISCRIMINATING DUTIES.

The abrogation or modification of treaties between the United States and foreign nations guaranteeing equality of treatment of shipping is involved in any legislative proposition for discrimination based on the flag of the ship. Some phases of the policies of discrimination and retaliation have been considered in former reports of the Bureau. The bearings of this policy on American shipping and shipbuilding are subordinate to the bearings of the policy on our foreign relations and on our tariff system.

France is the only nation, so far as recalled, which has experimented recently with discriminations, based on the flag, in shipping. By the act of May 19, 1866, France repealed discriminations against foreign shipping then in force in French ports. President Grant on June 12, 1869, issued his proclamation exempting French vessels from discriminations in ports of the United States. France, by the act of January

30, 1872, returned to discriminating duties. Thereupon President Grant, by proclamation of October 30, 1872, imposed discriminating duties on French vessels in American ports. France, by the act of July 28, 1873, repealed discriminating duties. Thereupon President Grant, by proclamation of September 22, 1873, exempted French vessels from discriminations in ports of the United States. Referring to these various measures, the French shipping bounty report of May 28, 1892, drawn by M. Jules Siegfried, subsequently minister of commerce, and embodying the views of a French commission of which the late M. Félix Faure, former President of France, was a member, stated:

> It became necessary to consider also reprisals which some foreign countries did not hesitate to impose. The act of July 28, 1873, abrogated the discriminating tax on the flag, which everyone condemned, as well as the custom-house duties on vessels.

The proclamations of President Grant just referred to illustrate the promptitude of the United States in retaliating for discriminations against American shipping. Indeed the policy of discrimination was originally invoked by the United States as a policy of reprisal, in the opinion of the author of the first navigation act of Congress, Representative Benjamin Goodhue, of Massachusetts, who stated (Annals of Congress, vol. 1, p. 184), April 21, 1789:

> There would be no occasion to lay additional duties on ships owned by foreigners if our own vessels were not subjected to charges in foreign ports over and above what the natives pay. It is the operation of this unequal burthen that renders it necessary for us to discriminate.

Discrimination, of course, may take the several forms of differential duties on the cargo or differential tonnage taxes on the vessel, or both. As a discrimination it is immaterial, so far as shipping and reprisals are concerned, whether the differential takes the form of lower duties on the national ship or its cargo than are imposed by present law, or higher charges on the foreign ship and its cargo than are imposed by present law. The requirements of the national revenue and the views entertained of the tariff govern a choice between these two forms. Reprisal, in either case, is the natural reply. Under these several forms, two methods of discrimination have at times been employed. The comprehensive method is to impose discriminations on foreign ships and their cargoes, regardless of the country from which they come or the place of origin of the cargoes they bring. During the fiscal year ended June 30, 1904, the entries of American vessels from foreign ports amounted to 6,679,173 net tons, of foreign vessels 23,273,237 net tons, according to returns of the Bureau of Statistics, American tonnage being 22 per cent of the total. About one-fourth of the tonnage entered annually in the United States is in ballast. The figures give a rough idea of the basis to be adopted if discrimination be attempted through tonnage taxes.

During the past fiscal year, also according to Bureau of Statistics returns, the imports in American vessels were valued at $132,253,065; in foreign vessels, $790,595,186, American vessels bringing 14 per cent of the imports. The effects of a discriminating duty on cargoes, based on the flag of the ship, would depend in some respects on whether it were proposed to put a higher duty on dutiable cargoes in foreign ships or a lower duty on dutiable cargoes in American ships. The

statistics mentioned do not distinguish between dutiable and free merchandise. During 1903, $426,180,979, or 41 per cent, of our imports were on the free list. To render discrimination effective for shipping, such imports must be made dutiable when brought in foreign ships.

The second, or limited, method is to discriminate against the foreign ship arriving from some other than its own country or carrying the products of some other country. Under this method, for example, American and British ships entering the United States from a British port would be treated equally, but ships of other nations from British ports would be subject to discrimination. Detailed returns of the Bureau of Statistics for the last fiscal year are not available, so the published returns for the fiscal year ended June 30, 1903, are employed in the following tables. These returns show that of 31,093,663 net tons entered the United States 6,906,582 net tons were American and 15,929,939 net tons were ships of the countries from whose ports they cleared for the United States. Thus the limited method of discrimination would apply to about one-fourth of the tonnage entering the United States. The following summary by continents shows the tonnage of foreign vessels which come to the United States from their own ports, the American tonnage, and the "other" tonnage—that is to say, of foreign vessels entered from some other port than a port of their own country or its dependencies:

Continent.	National.	American.	Other.	Total.
Europe	10,350,585	404,756	3,049,184	13,804,525
Africa	151,487	10,602	370,750	532,889
North America	4,899,887	5,828,295	3,120,949	13,849,131
South America	39,744	297,232	1,065,019	1,401,995
Asia	328,019	186,517	544,912	1,059,448
Oceania	158,217	175,004	107,352	440,573
Whale fisheries	.....	4,176	976	5,152
Total	15,927,939	6,906,582	8,259,142	31,093,663

The attempt to handicap foreign vessels in trade with the United States unless they come directly from their own ports would work differently in different cases. Following are the figures of a few principal illustrative countries and colonies:

Countries and colonies.	National.	American.	Other.	Total.
Great Britain	6,669,323	254,937	591,287	7,515,547
Germany	1,937,513	2,147	266,405	2,206,065
Belgium	158,067	142,686	744,732	1,045,485
Quebec, Ontario, Manitoba	3,382,111	3,044,200	.....	6,426,371
Cuba	101,527	725,896	995,887	1,823,310
British South Africa	139,363	6,357	119,594	265,314
Australia and Tasmania	152,141	138,369	50,386	340,896
Brazil	.....	13,443	489,202	502,645
Japan	91,544	95,976	219,415	406,945

The entries in the United States from Quebec, Ontario, and Manitoba are thus already in fact confined to American and British vessels, and a discrimination against foreign vessels in other than national trade would be inoperative. The form which it took might be important from a revenue and tariff point of view. Thus, an additional 5 or 10 per

cent duty on merchandise imported in other than American or national vessels would not affect at all the trade by water between the United States and Quebec, Ontario, and Manitoba, because it is carried on entirely in American or British bottoms. If the discrimination were to take the other form, 5 or 10 per cent lower duty on merchandise imported in American and national vessels, it would amount to a reduction of 5 or 10 per cent on everything dutiable imported by water from Quebec, Ontario, and Manitoba, as imports by water from those provinces are in fact carried entirely by American or British vessels. As duties on imports by rail or other land transportation would remain unchanged, shipping in this trade would probably increase.

Of the vessels which entered from Great Britain and Ireland 6,669,323 tons were British, 254,937 tons were American, and the remainder, 591,287 tons, belonged to other nations. If seriously contemplated and undertaken by the United States without immediate reprisals an effort to limit the shipping in trade between the United States and Great Britain to American and British vessels would thus drive out of that trade (on the basis of 1903 figures) 591,287 tons belonging to other nations. If the method adopted were to reduce duties, say 10 per cent on goods brought in British and American vessels, the proposition would apparently reduce the tariff 10 per cent on about nine-tenths of our imports from Great Britain. If the method adopted were to increase the duties 10 per cent on imports brought in foreign vessels not British the proposition would affect about one-tenth of our British imports, until British vessels in a month or two supplied the places vacated by German, French, and other foreign ships. American ships in competition with British in direct trade with Great Britain would be at the same disadvantage as at present.

The direct trade with Germany, as shown by the figures above, would be similarly affected. At the other extreme stand countries to the south, like Brazil. During the fiscal year 1903 no Brazilian vessels entered the United States from Brazil, and American tonnage entering was only 13,443 net tons. A proposition to increase duties on imports from Brazil (chiefly on the free list), if borne by other than American or Brazilian vessels, would be tantamount to increasing duties on all imports from that country until shipping had readjusted itself to the new conditions. On the other hand, if duties on imports from Brazil, if carried in American or Brazilian vessels, were reduced, say 5 or 10 per cent, there would be no immediate effect on shipping, because American and Brazilian vessels can bring little except free goods from Brazil. As long as coffee and rubber, our principal imports from Brazil, are on the free list the form of discrimination mentioned could not be effective.

Our principal imports on the free list come from countries which build or own very few ships. Thus 94 per cent of our imports from Central America during 1903 were on the free list, 82 per cent of imports from South America, and from Brazil alone 97 per cent, and from Asia 57 per cent. Three-fourths in value of our free importations are included in the nine articles following, which are in the main produced by countries having little shipping of their own.

Articles.	Values, 1903.
Coffee	$59,207,173.72
Silk, unmanufactured	50,012,251.00
Hides and skins, raw, not elsewhere specified	41,885,577.31
Chemicals, drugs, and dyes, not elsewhere specified	39,501,172.66
India rubber and gutta-percha	32,525,513.39
Fibers, vegetable, and textile grasses, unmanufactured	32,114,898.50
Tin, in bars, blocks, pigs, or grain or granulated	23,618,857.00
Copper, unmanufactured	20,844,059.87
Tea	15,392,065.08
Total	315,101,568.53

The proposition to restrict trade from southern countries to the United States to American and national vessels would practically restrict the trade to American vessels, unless those countries extend their registers of shipping so as to bring a large amount of European tonnage under their respective national flags. Their present registry laws are not material in the consideration of our policy, for they would necessarily be changed to meet the new situation. So far as our facilities for transportation by sea are concerned, the effect of either form of discrimination on the flag must be examined in detail, country by country, and colony by colony, to ascertain the effects of the policy. Its effects on the shipping of other nations in trade with the United States directly from the home country or indirectly from other countries is more readily evident from the following table, showing the tonnage under foreign flags in trade with the United States which entered direct from ports under that flag or indirect from other foreign ports. (The word "indirect" is used here throughout in the sense that the foreign vessel does not enter from one of its nation's or colonies' ports. In the ordinary sense its voyage may have been direct, as, for example, a Norwegian vessel regularly in trade between Cuba and the United States.)

Recapitulation by nationality.

Nationality.	Direct.	Indirect.	Total.
American			6,906,582
Austrian	44,672	92,427	137,099
Belgian	158,067	125,672	283,739
British	12,022,539	3,759,951	15,882,490
Chilean	5,439	7,872	13,311
Cuban	101,627	35,800	137,327
Danish	149,235	235,567	384,802
Dominican	49		49
Dutch	547,452	203,647	751,099
French	340,739	288,773	629,512
German	1,937,793	983,949	2,921,742
Honduran	218		218
Italian	319,723	217,340	537,063
Japanese	91,554	51,670	143,224
Mexican	1,639	152	1,791
Norwegian	7,822	1,651,670	1,659,492
Peruvian		417	417
Portuguese	40,697	8,946	49,643
Russian	377	60,044	60,421
Spanish	157,207	348,339	505,546
Swedish	1,190	62,469	63,659
Uruguayan		24,437	24,437
Total foreign	15,927,939	8,259,142	24,187,081
Total American and foreign			31,093,663

Practically all Norwegian tonnage enters the United States from other countries than Norway, and would be subject to as great disabilities under a limited method of discrimination as under the comprehensive scheme. About one-fourth of British tonnage, one-third of German, and two-thirds of Spanish enter the United States from other than their national ports.

Even the very full returns of the Bureau of Statistics do not show precisely the extent to which vessels under a given flag carry the products of their own country exclusively. To a considerable extent a cargo imported into the United States consists of the products of several countries, especially in the case of vessels arriving from Europe. Thus the table of imports, by countries of origin, into the United States shows that American vessels carried $19,270,006 French goods into the United States. In fact, American vessels took on very little of this cargo at French ports.

The stay of American steamers at Cherbourg is only long enough to take on or discharge passengers. The French cargoes are taken on at Antwerp or Southampton, together with Belgian, Russian, German, British, and other European products. Similar conditions, of course, exist in other cases. The information at hand does not enable the Bureau to offer any suggestions of possible effects of a limited discrimination policy based on the nationality of the cargo as well as of the ship. All the foregoing statements have been based on the assumption for the time being that all other nations would consent to a readjustment of shipping in trade between the United States and such nations precisely as we might wish to have it readjusted for our own benefit. It is quite improbable that other nations would refrain from legislation on the same subject from their own several points of view of their interests.

DISCRIMINATION AGAINST SAIL VESSELS IN THE COASTING TRADE.

Heavy pilotage charges or license fees are imposed on American sail vessels in the coasting trade in ports from Virginia to Texas, inclusive. American steam vessels in the same trade are exempt from such charges. The discrimination is severely felt, and it has undoubtedly contributed to retard American sail tonnage. While the charges are imposed under State laws, the discrimination arises from section 51 of the act of Congress approved February 28, 1871. Among other things that section (incorporated as section 4444 in the Revised Statutes) provided:

> And no State or municipal government shall impose upon pilots of steam vessels herein provided for any obligation to procure a State or other license in addition to that issued by the United States, nor other regulation which will impede such pilots in the performance of their duties as required by this act; nor shall any pilot charges be levied by any such authority upon any steamer piloted as herein provided.

When this act was passed thirty-three years ago the inspection system applied only to steam vessels, and Congress may have deemed steam vessels deserving of the special encouragement involved in the exemption from State pilotage charges. On June 30, 1871, our enrolled tonnage comprised 903,543 tons steam and 1,901,731 tons sail.

On the 30th of last June it comprised 3,004,928 tons steam and 2,278,861 tons sail. Steam has increased over 200 per cent, sail only 20 per cent in enrolled tonnage. Since 1898 the Government inspection system has been extended so as partially to include the sail fleet. Such burdens as the inspection system may entail have been imposed on the sail fleet. The corresponding benefits remain to be bestowed by Congress. In the reports of the Bureau for some years past arguments for the removal of this discrimination have been set forth at some length. (Report for 1895, pp. 45–47; 1896, pp. 31–32; 1897, pp. 45–46; 1898, p. 62; 1899, p. 89; 1900, p. 60; 1901, p. 65; 1902, p. 64; 1903, p. 46.)

The conditions of foreign trade afford only steadily diminishing opportunities for American sail vessels, and the sail fleet must more and more be confined to domestic transportation. The sail fleet is a necessity to the maintenance of a reserve personnel for national defense. As an original proposition, it seems that Congress could well enact a law giving to sail vessels, when piloted by officers whose competency has been tested by Federal examination, exemption from State pilotage charges. It is the best form of relief practicable. The constitutionality of the present Virginia law has been called into question, and argument in the case (Abram P. Thompson, plaintiff in error, *v.* Joseph J. Darden) will probably be heard by the Supreme Court of the United States during January, 1905. If the Virginia State law is constitutional, the discrimination created by Congress in 1871 will none the less call for remedy. The passage of the following bill is recommended:

[S. 2260, Fifty-eighth Congress, second session.]

A BILL to remove discriminations against American sailing vessels in the coasting trade.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section forty-four hundred and forty-two of the Revised Statutes be, and is hereby, amended by adding thereto the following: "Whenever the master or mate of a sailing vessel of the United States employed in the coastwise trade claiming to be a skillful pilot offers himself for a license, the inspectors shall make diligent inquiry as to his character and merits, and if satisfied from personal examination of the applicant, with the proof that he offers, that he possesses the requisite knowledge and skill, and is trustworthy and faithful, they shall grant him a license for the term of five years to pilot any such vessel within the limits prescribed in the license; but such license shall be suspended or revoked upon satisfactory evidence of negligence, unskillfulness, inattention to the duties of his station, intemperance, or the willful violation of any of the provisions of this title."

SEC. 2. That section forty-four hundred and forty-four of the Revised Statutes be, and is hereby, amended to read as follows:

"SEC. 4444. No State or municipal government shall impose upon pilots of vessels any obligation to procure a State or other license in addition to that issued by the United States, or any other regulation which will impede such pilots in the performance of the duties required by this title; nor shall any pilot charges be levied by any such authority upon any vessel piloted as provided by this title, nor upon any vessel of the United States employed in the coastwise trade being towed into or out of any port of the United States by a vessel under command of a pilot licensed for such port under the laws of the United States, and in no case shall the fees charged for the pilotage of any vessel exceed the customary or legally established rates in the State where the same is performed. Nothing in this title shall be construed to annul or affect any regulation established by the laws of any State requiring vessels entering or leaving a port in any such State other than coastwise vessels to take a pilot duly licensed or authorized by the laws of such State or of a State situate upon the waters of such State."

SEC. 3. That section forty-two hundred and thirty-seven be, and is hereby, amended to read as follows:

"SEC. 4237. No regulations or provisions shall be adopted by any State which shall make any discrimination in the rate of pilotage or half pilotage between vessels sailing between the ports of one State and vessels sailing between the ports of different

States, or any discrimination against vessels propelled in whole or in part by machinery or sail, or against national vessels of the United States; and all existing regulations or provisions making any such discrimination are annulled and abrogated."

SEC. 4. That this act shall take effect six months after its passage.

REMOVAL OF DERELICTS.

The report of the Bureau for 1903 stated:

The creation of a department charged with the duty of promoting shipping affords the opportunity for practical legislation on the subject of derelicts. The need of such legislation was pointed out by the Washington International Marine Conference of 1889. Efforts to secure an international agreement for the marking and destruction of these menaces to navigation have failed, and naturally, because derelicts are chiefly American wooden schooners, lumber laden. Hitherto efforts to secure the removal or destruction of derelicts have been prosecuted in a desultory fashion, chiefly because jurisdiction over the subject was divided between the Treasury and Navy Departments, or, properly speaking, was lodged with neither Department. If it is the purpose of Congress ultimately to vest the Secretary of Commerce and Labor with authority over all matters relating to merchant shipping and seamen, effective legislation for the destruction or removal of derelicts will not be difficult to frame and enforce.

In substantial accord with the recommendations of the Bureau the following bill (S. 2262, introduced by Senator Frye) was passed by the Senate on January 27, 1904, favorably reported by the House Committee on Interstate and Foreign Commerce on April 15, 1904, and now holds a place on the House Calendar which will admit of early action at the coming session:

AN ACT to provide for the removal or destruction of derelicts.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President may from time to time detail any public vessel to remove or destroy any derelict from the course of vessels at sea. Any public vessel when so detailed shall be under the direction of the Secretary of Commerce and Labor, who is hereby directed to prescribe from time to time regulations to carry out this act. The expense of enforcing this section shall be borne out of the receipts from duties on tonnage, and so much thereof as may be necessary is hereby appropriated for that purpose.

SEC. 2. That the sum of one hundred and seventy-five thousand dollars, or so much thereof as may be necessary, is hereby appropriated, out of any money in the Treasury not otherwise appropriated, for the construction, under the direction of the Secretary of Commerce and Labor, of a steam vessel especially fitted for and adapted to the purpose of removing or destroying derelicts from the course of vessels at sea. Such vessel shall be operated and maintained as provided in section one of this act.

SEC. 3. That this act shall take effect one month after its passage.

The reasons for the bill are stated in a letter of the Secretary of Commerce and Labor to the chairman of the House Committee on Interstate and Foreign Commerce.

So far as the Bureau is advised the measure is favored by practically all the maritime interests of the country which have considered the subject. Thus far the bill has met no opposition. On the score of jurisdiction the removal of derelicts is a matter for the Department of Commerce and Labor, which has general charge of merchant shipping, rather than for the Treasury Department, charged with the collection and disbursement of revenues, or the Navy Department, charged with the national defense by sea.

Tonnage taxes are a peculiarly appropriate fund from which to defray the cost of removing derelicts. Over nine-tenths of our receipts from tonnage last year came from vessels under foreign flags. The

removal of derelicts is for the benefit of foreign as well as American shipping, while the marine hospitals, especially in the interior, which are maintained from tonnage taxes, are almost exclusively for the benefit of American seamen.

LIGHTS ON FISHING VESSELS.

The article governing lights on fishing vessels in the Revised International Rules for preventing collisions at sea has not yet taken final form. The British proposition on the subject, prepared December 29, 1903, was submitted last March to Austria-Hungary, Belgium, Denmark, France, Germany, Italy, Japan, and the Netherlands, the eight powers specially interested. It is not probable that the negotiations will be finally concluded in time to permit the submission to Congress at the coming session of a bill to supply this article in the international rules. The Bureau has laid the British proposition before the American delegates to the International Marine Conference, and has taken steps to bring it to the attention of those interested in this country.

REMISSION OF FINES, PENALTIES, AND FORFEITURES.

One of the earliest acts of the second session of the First Congress was an act "to provide for mitigating or remitting the forfeitures and penalties accruing under the revenue laws in certain cases therein mentioned." At the first session and early in the second session Congress had passed laws relating to commerce in the several forms of regulating vessels, exports, and imports, certain provisions of which imposed penalties on owners and masters of vessels. The experience of six months between the first and second sessions seems to have convinced Congress that the full imposition of each penalty in each case would not serve the purpose for which the penal provisions were designed, and that "without willful negligence" the innocent might be made to suffer under laws designed with a quite different intent. Accordingly the following act was passed and approved May 26, 1790:

CHAP. XII. AN ACT to provide for mitigating or remitting the forfeitures and penalties accruing under the revenue laws, in certain cases herein mentioned.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That whenever any person who now is, or hereafter shall be liable to a fine, penalty, or forfeiture, or interested in any vessel, goods, wares, or merchandise, or other thing which may be subject to seizure and forfeiture, by force of the laws of the United States now existing, or which may hereafter exist, for collecting duties of impost and tonnage, and for regulating the coasting trade, shall prefer his petition to the judge of the district in which such fine, penalty, or forfeiture may have accrued, truly and particularly setting forth the circumstances of his case, and shall pray that the same may be mitigated or remitted; the said judge shall inquire in a summary manner into the circumstances of the case, first causing reasonable notice to be given to the person or persons claiming such fine, penalty, or forfeiture, and to the attorney of the United States for such district, that each may have an opportunity of showing cause against the mitigation or remission thereof; and shall cause the facts which shall appear upon such inquiry to be stated and annexed to the petition and direct their transmission to the Secretary of the Treasury of the United States, who shall thereupon have power to mitigate or remit such fine, penalty, or forfeiture, or any part thereof, if in his opinion the same was incurred without wilful negligence or any intention of fraud, and to

direct the prosecution, if any shall have been instituted for the recovery thereof, to cease and be discontinued, upon such terms or conditions as he may deem reasonable and just: (a) *Provided*, That nothing herein contained shall be construed to affect the right or claim of any person, to that part of any fine, penalty, or forfeiture, incurred by breach of either of the laws aforesaid, which such person may be entitled to by virtue of the said laws, in cases where a prosecution has been commenced, or information has been given before the passing of this act; the amount of which right and claim shall be assessed and valued by the judge of the district in a summary manner.

SEC. 2. *And be it further enacted*, That this act shall continue and be in force until the end of the next session of Congress, and no longer.

Approved May 26, 1790. (1 U. S. Stat. L., 122.)

By the act of March 3, 1797, Congress extended the act quoted so as to include

any person or persons, who shall have incurred any fine, penalty, forfeiture, or disability, or shall have been interested in any vessel, goods, wares, or merchandise, which shall have been subject to any seizure, forfeiture, or disability, by force of any present or future law of the United States, for the laying, levying, or collecting any duties or taxes, or by force of any present or future act, concerning the registering and recording of ships or vessels, or any act concerning the enrolling and licensing ships or vessels employed in the coasting trade or fisheries, and for regulating the same.

The principle of these early acts and the manner in which the authority bestowed was exercised seem to have met the approbation of Congress, for the authority has been extended from time to time by subsequent legislation. To recite all these acts is unnecessary, but one change in method may be noted. Much of our earlier legislation in which money penalties were imposed was based on the informer's and moiety systems, under which the informer against the offender received one-half the penalty. As those who detected such offenses were often officers of the customs, for obvious reasons judicial inquiry into facts was desirable in applications to the Secretary for remission.

The informer and moiety systems fell into disrepute in 1871–72, partly through the Jayne disclosures, and are now virtually dead letters, even in the cases in which they are retained in the language of some statutes. The early need of an inquiry by a Federal judge preliminary to action by the Secretary on remission cases thus no longer exists, and Congress has recognized the fact in the legislation of the past thirty years on the subject. The collectors of customs are the officers through whom the Government conducts by far the greater part of its dealings with merchant vessels, and are the natural officers through whom the facts in any application for remission may be obtained directly from witnesses. As the principal responsible officer of the Government at seaports the collector of customs is a carefully chosen man who has passed the close scrutiny of the President and the Senate of the United States. Later legislation accordingly has not required the inquiry by the United States district judge. The inquiry is in fact generally conducted by the collector of customs, who transmits the petition and facts appearing on his inquiry, with or without a recommendation, to the Department. The authority for remission now invoked most frequently, besides the early acts already referred to, which, as amended are consolidated in sections 5292–5293, Revised Statutes, are section 5294, as amended December 15, 1894, March 2, 1896, and February 14, 1903, which reads:

The Secretary of Commerce and Labor may, upon application therefor, remit or mitigate any fine, penalty, or forfeiture provided for in laws relating to vessels or discontinue any prosecution to recover penalties or relating to forfeitures denounced in

such laws, excepting the penalty of imprisonment or of removal from office, upon such terms as he, in his discretion, shall think proper; and all rights granted to informers by such laws shall be held subject to the Secretary's powers of remission, except in cases where the claims of any informer to the share of any penalty shall have been determined by a court of competent jurisdiction prior to the application for the remission of the penalty or forfeiture; and the Secretary shall have authority to ascertain the facts upon all such applications in such manner and under such regulations as he may deem proper.

and section 26 of the act of June 26, 1884, as amended by section 10 of the act of February 14, 1903, as follows:

Whenever any fine, penalty, forfeiture, exaction, or charge arising under the laws relating to vessels or seamen has been paid to any collector of customs or consular officer, and application has been made within one year from such payment for the refunding or remission of the same, the Secretary of Commerce and Labor, if on investigation he finds that such fine, penalty, forfeiture, exaction, or charge was illegally, improperly, or excessively imposed, shall have the power, either before or after the same has been covered into the Treasury, to refund so much of such fine, penalty, forfeiture, exaction, or charge as he may think proper, from any moneys in the Treasury not otherwise appropriated.

PENALTY CASES DURING THE FISCAL YEAR.

During the fiscal year ended June 30, 1904, the first year in which the Secretary of Commerce and Labor has been empowered to act upon applications for the mitigation or remission of fines, penalties, and forfeitures, 706 such applications have been reviewed and forwarded, with recommendations of the Bureau of Navigation, to the head of the Department for his consideration and action. The cases have comprised violations or alleged violations of 64 sections of the Revised Statutes or of acts passed since 1874. In the consideration of such cases other statutes, of course, are involved. The penalties range from the forfeiture of a vessel, its tackle, apparel, furniture, and cargo, involving very large sums, to a penalty of $10. Where feasible, these cases have been classed in the following statement according to the statute alleged to have been violated, all laws of which over 10 violations were reported being stated under a separate head. The miscellaneous column of 94 cases involves 29 statutes alleged to have been violated less than ten times, with one exception, mentioned later. The applications for remission are also stated according to the collector or surveyor of customs who reported the case. In the case of vessels of the United States such reports are usually made by the collector of the port at which the vessel is documented. These returns are based on the date of the Department's action. The table on page 698 shows the applications for remission acted upon by the Secretary of Commerce and Labor, classified as described.

Ports.	Total.	Steamboat (4399–4500 R. S.).	Surrender license (4325–6 R. S.).	Rules of road, June 7, 1897, inland; Feb. 8, 1895, lakes; May 6, 1896, St. Mary's.	Consular bills of health (Feb. 15, 1893).	New York anchorage (May 16, 1888).	Passenger act (Aug. 2, 1882).	Inspection of enrollment and license (R. S. 4336).	Defective manifest (R. S. 2809).	Master's report on arrival (R. S. 2774).	Name on vessel (R. S. 4178).	Change of master (R. S. 4335).	Miscellaneous.
Albany	3	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Alexandria	3	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Annapolis	9	.....	.....	8	.....	.....	.....	.....	.....	.....	1	.....	.....
Apalachicola	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Astoria	7	2	.....	2	2	.....	.....	.....	.....	.....	.....	.....	1
Baltimore	47	2	1	17	7	.....	.....	2	3	.....	9	1	5
Bangor	4	.....	.....	.....	.....	.....	.....	1	.....	.....	1	1	1
Beaufort	3	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Belfast	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Boston	24	4	5	1	7	.....	.....	4	.....	.....	.....	.....	3
Brunswick	3	1	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Buffalo	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cape Charles	7	.....	.....	3	.....	.....	.....	2	.....	.....	2	.....	.....
Cedar Keys	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Charleston	2	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....
Chicago	8	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Cleveland	14	.....	.....	5	.....	.....	.....	.....	3	1	.....	2	3
Corpus Christi	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crisfield	5	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	.....	.....
Detroit	3	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Duluth	34	1	21	5	.....	.....	.....	.....	4	3	.....	.....	.....
Dubuque	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Edgartown	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Fall River	2	.....	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Fernandina	5	.....	2	.....	1	.....	.....	.....	.....	.....	.....	.....	2
Galveston	7	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Grand Haven	3	1	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....
Gulfport	4	.....	.....	1	1	.....	.....	.....	.....	.....	2	.....	.....
Hartford	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Honolulu	6	2	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	3
Jacksonville	3	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
Juneau-Sitka	18	5	12	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Key West	11	.....	1	.....	.....	.....	.....	.....	8	.....	.....	.....	2
Marquette	16	7	3	3	.....	.....	.....	.....	.....	1	.....	.....	2
Milwaukee	2	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mobile	6	1	.....	1	4	.....	.....	.....	.....	.....	.....	.....	.....
Memphis	3	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Newark	4	3	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
Newbern	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
New Haven	4	1	.....	1	.....	1	.....	1	.....	.....	.....	.....	.....
New London	3	.....	1	.....	.....	.....	.....	1	.....	.....	.....	1	.....
New Orleans	11	4	.....	.....	2	.....	1	.....	1	.....	1	.....	2
Newport News	9	.....	3	2	2	.....	.....	1	.....	.....	1	.....	.....
New York	142	37	.....	4	10	33	13	.....	8	.....	.....	5	32
Norfolk	26	8	.....	1	.....	1	.....	11	.....	.....	1	2	2
Ogdensburg	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	3
Patchogue	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Pensacola	2	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Perth Amboy	12	1	1	.....	.....	6	.....	.....	.....	.....	.....	1	3
Philadelphia	24	8	.....	.....	1	7	.....	3	2	.....	2	.....	1
Port Huron	11	1	.....	.....	.....	.....	.....	.....	3	2	1	.....	4
Portland, Me	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Port Townsend	138	65	34	25	2	.....	.....	.....	3	4	.....	.....	5
Providence	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sag Harbor	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
San Juan	11	.....	10	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
San Francisco	6	1	.....	.....	.....	.....	.....	.....	.....	.....	1	1	3
Savannah	2	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	1
St. Paul	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Shieldsboro	11	.....	1	5	2	.....	.....	.....	.....	.....	1	1	1
Somers Point	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
St. Augustine	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tampa	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Tappahannock	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Waldoboro	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Washington	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sixty-six ports	706	184	101	93	48	49	16	29	37	12	24	19	94

STEAMBOAT-INSPECTION LAWS.

There have been 184 applications for remission of penalties under Title LII of the Revised Statutes, Regulation of Steam Vessels, and acts amending or supplementing that title. Each case can be estimated only on a full statement of all the facts, and the complete correspondence would fill over 300 printed pages. Following, however, is an outline of the applications by inspection districts:

FIRST DISTRICT.

The first steamboat-inspection district comprises all the territory west of the Rocky Mountains, including Alaska and Hawaii. During the fiscal year ended June 30, 1903, 1,230 vessels were inspected by the officers of the Steamboat-Inspection Service in this district. The report for the fiscal year ended June 30, 1904, is not at hand, but presumably the number of vessels inspected was no less.

San Francisco.—One licensed master's papers qualified him for vessels under 100 tons, while his was 137 tons. As her houses and sides had been removed, the vessel, if remeasured, would probably have been under 100 tons.

Port Townsend.—The disaster to the steamer *Clallam* in January was followed by an oral inquiry from the collector of customs of the Puget Sound district whether he could employ the officers of the Revenue-Cutter Service in examining the vessels in his district. He was advised orally that the whole scheme of the inspection laws manifestly contemplated the report to him of any violation of those laws by any person, whether or not connected with any branch of the Federal service. Over one-third of all the violations of the steamboat-inspection laws during the whole fiscal year past for the whole country which were reported on applications for remission or mitigation of penalties came from the Puget Sound district, and of the 65 cases thus reported, 52 were based on reports of the revenue-cutter officers. During the fiscal year 1903, the steamboat inspectors did not report any violations of law to the collectors of customs of the first district, and in the entire country reported 61 cases to collectors. If the total number of fine cases reported were a test of the adequacy of inspection and of safety of navigation, then the acts of Congress for the regulation of steam vessels were less heeded on Puget Sound than anywhere else in the country, and that condition prevailed in the months following the *Clallam* disaster, which is highly improbable.

The scrutiny of the officers referred to seems to have been most minute. From the fact that the slightest deviation from law and regulation was reported, the conclusion is inevitable that all the essential appliances for safety of life on board must have been critically examined. Thus one vessel was reported because it did not have on board the prescribed number of the pamphlet containing the steamboat inspection laws (34,222), and another vessel (35,859) was short one copy of the Rules of the Road. That the fire-extinguishing apparatus, the life-saving appliances, the lights, and other apparatus prescribed for safe navigation were on board these vessels and in legal condition may be assumed, for it is not credible that an officer designated to inspect a vessel to insure the safety of those on board would overlook these appliances and report solely on the number and condition of pamphlets,

placards, and papers, which are only tokens, not the things at which inspection aims. .The absence of one as much as of the other, however, falls under the statutory penalty.

As stated, 52 cases were reported to the collector by revenue-cutter officers and came before the Department on application for remission, involving 102 violations of law or regulations. In no case was a vessel reported with insufficient life-preservers or illegally defective life-preservers. Probably, therefore, there were enough of these and in proper condition. There were no reports against hose. In 27 cases, however, the notices of how to put on life-preservers were not posted in the dining saloon, smoking room, social hall, etc., though posted as a rule in the staterooms where life-preservers usually are kept. That the printed instructions for the use of life-preservers in nearly every case were displayed seems clear from the testimony, but that they were not posted according to regulation is even clearer, and the inspecting officers did their manifest duty in reporting these violations. In 9 cases boat or fire drills or both were not entered on the ship's logs, though it was claimed they had usually been held when weather permitted. In 1 case (35478) no boat drill had been held, but the owner stated that his entire crew, including engineer, consisted of but 5 men, and he had not supposed a boat drill necessary. The vessel is 98 gross tons. In 12 cases some of the axes, oars, and buckets were not marked with the vessel's name, and in 5 cases the cubic contents of lifeboats were not marked according to regulation.

On 16 vessels one or more axes or buckets were found out of place or missing when the officer boarded the vessel. These inspections were not made on the annual date, but without notice by the boarding officer, whose duty was to report conditions as he found them. In most cases the whereabouts of the missing articles or the reason they were out of place was shown later. No vessel was reported for lack of lifeboats or rafts, and in only 1 case (35346) were lifeboats reported in bad condition. In 8 cases the life lines on one or more lifeboats were lacking or not in place; in 5 cases the davits, falls, or guys were reported, 3 plugs were missing, and in 3 cases lifeboats were one or two oars short. In practically all of these cases the question is not of adequate supply, for which the owner should be held responsible, but of displacement or loss of single articles where responsibility for conditions naturally rests on the officers. In most of such cases the steamboat regulations (par. 15, p. 70) provide that the licensed officer may be suspended if the circumstances warrant. Such action does not come before the Secretary of Commerce and Labor even on review. As a legitimate penalty for violations of law of the general nature of those described, it is considered in applications for the mitigation of penalties on the owner.

Five vessels were reported, however, for having no spare tiller or relieving tackle, 4 for lack of ladders or stairs to the boat deck, 1 for no chain cable (had a rope cable), and 1 for no side-rope gangway for passengers. In some of these cases the vessel had passed annual inspection without the absence being noted. It is not practicable in the limits of space and time available to give all the details of these cases. They show, however, the general results of an inquiry, by officers trained to sea service, which must have been searching in view of the disaster which so shortly preceded it. The action of the Department on these applications was taken in each case on the recommenda-

tion of the collector of customs, who had shown special zeal and intelligence in enforcing the laws, and on the consideration that in most cases another and more just remedy is provided when there was neglect.

Besides the 52 cases outlined, based on revenue-cutter officers' reports, 13 other violations were reported. Four sail vessels on entry were without licensed American mates because they could not get them at Shanghai and the outports of Honolulu, where the mates left. One vessel's engineer was without a Puget Sound license (he had a New York license for larger vessels). One vessel was 1 fireman short of the number prescribed by the local inspectors. The Attorney-General has held that local inspectors can not lawfully prescribe the number of firemen. One vessel was without a licensed pilot. Two launches without passenger certificates carried some men to work on dredges belonging to the company owning them. One vessel, usually in the freight business, neglected to make up a passenger list when carrying passengers. One steamer carried 42 passengers beyond the number permitted in its certificate from St. Michael on its last trip at the request of the deputy collector of customs at that point so that these people would not have to winter on the island. One vessel, carrying two cases of metallic rifle cartridges, was reported for carrying gunpowder. One vessel carried an excess of passengers from Seattle to the Bremerton Navy-Yard. The owners claimed that they supposed the rule of the passenger act of 1882, by which 2 children under 8 years count as one person, applied to their trade.

The 65 fine cases at Port Townsend during the year have been briefly outlined for several reasons:

First. Because the large number of such cases reported would convey the impression of lax observance of law by owners unless the facts are stated. The collector of customs at that port has given force to section 4496, Revised Statutes, reading:

SEC. 4496. All collectors or other officers of the customs and all inspectors within the several districts shall enforce the provisions of this title (R. S. 4399–4500) against all steamers arriving and departing.

Second. The action of the Department in mitigating many of these penalties to nominal amounts may be misunderstood unless an outline of the cases be given, and that misunderstanding become some time the pretext by which lax inspection or no inspection at all of the real life-saving and fire-extinguishing apparatus may be justified.

Astoria and Alaska.—Only nine other applications for remission of penalties for violations of these laws were received from the first steamboat-inspection district. At Astoria one steamer did not show two copies of the pamphlet containing the steamboat laws and one sail vessel navigated under an expired certificate of inspection. She could not be inspected by the local inspectors, being at Shanghai at the time. At Honolulu the license of the master of a sail vessel was indorsed as to his qualifications. He should have had a separate paper to the same effect. One launch at Hilo, Hawaii, navigated without a licensed engineer. He was ill and a substitute could not be found there. The inspectors visit Hawaii only for a brief time each year. From Alaska (Sitka-Juneau) one case was reported of an improperly licensed engineer. He was licensed for a 60-ton vessel and this vessel was 75 tons. One licensed mate was discharged for cause, and his substitute's license covered Puget Sound waters but not Alaskan waters. One vessel was without a licensed pilot, though the master was licensed and the small

vessel was used only as a tender to a cannery. The steamer *Corwin*, on petition of the mayor and common council of Nome, carried passengers without a passenger certificate from Alaska at the close of the season. One British vessel was reported, through the United States consul, for carrying a woman who was a stowaway and her presence aboard not known until some hours after departure.

SECOND DISTRICT.

The second district embraces the waters of the Atlantic coast rivers and tributaries between Passamaquoddy Bay and Cape Charles. It includes the great seaports New York, Boston, and Philadelphia. During the fiscal year 1903 in this district 3,284 vessels were inspected, or more than a third of the entire number inspected in the country. Under the acts of August 7, 1882, and March 1, 1895, foreign vessels are subject to certain requirements of the inspection laws. In this district 202 foreign steamers were inspected during the fiscal year 1903. It is noted that only one foreign steamer during the past fiscal year has come before the Department from this district for the mitigation of a penalty under these laws, though under other laws such vessels are applicants for mitigation. Probably from this fact the conclusion would not be warranted that foreign vessels are better able to stand tests of inspection than American vessels, for during the fiscal year 1903 the inspectors of steam vessels in this district reported to collectors of customs only 17 violations, and during 1902 only 20 violations, by American vessels, or 1 violation to about every 175 vessels, and these violations included technicalities, such as the date of the certificate of inspection, etc. During the past fiscal year there have been 60 penalty cases reported from this district on applications for remission or mitigation. More than half (37) of these cases have been reported by the collector of customs at New York. Recently you inquired about such cases, and the following reply to your inquiry presents the salient features of each fine case forwarded from New York for the past four fiscal years.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF NAVIGATION,
Washington, October 24, 1904.

SIR: Referring to your note of October 20, received on October 22, and my reply of October 22, I have the honor to inclose herewith a statement showing the cases in which application has been made for the mitigation or remission of penalties incurred under Title LII of the Revised Statutes (Regulation of Steam Vessels) and acts amendatory thereto, [such cases having been] forwarded by the Collector of Customs at the port of New York during the four fiscal years ended June 30, 1904. Since July 1, 1903, these applications have been acted upon by the Secretary of Commerce and Labor, before that date by the Secretary of the Treasury.

As I had the honor to advise you on Saturday:

"From recollection I can say now that the great majority of these cases have not involved any question of efficient inspection or adequate appliances or 'reform of abuses.' The majority of cases, as I recall it, turned on the date of inspection, a technical detail of minor consequence compared with the efficiency of inspection on the Government's part, or the adequacy of appliances on the owner's part. These two last-mentioned matters, as I understand it, are the essentials involved in the *Slocum* case, and these matters have rarely been before either the Secretary of the Treasury or the Secretary of Commerce and Labor in applications for remission under the steamboat laws at New York."

There have been 85 applications, which may be classified as follows:

Year ended June 30—	Navigating on expired or defective certificate, or none (not involving equipment itself).	Officers' qualifications.	Unlawful transportation of passengers.	Defective equipment.	Total.
1901	4	4	2	2	12
1902	6	6	5	1	18
1903	23	3	3	1	30
1904	20	2	1	2	25
Total	53	15	11	6	85

NOTE.—The few cases of sail vessels under the act of December 21, 1898, are not included, as they stand on a different plane. If desired a separate report can be made of them.

Defective equipment.—Only six cases, based on defective equipment, have been reported from New York on application for remission, during four years.

In case 26092 there was no hand pump. It was shown that the vessel had a steam fire pump of much greater power;

In 27732 two station bills had not been posted;

In 31157 the vessel on the route from Newark to Coney Island had no Lyle gun;

In 33786 a fusible plug used was not of the type registered by the inspectors, and

In 35437 a fusible plug lacking was purchased and put aboard as soon as ice would permit.

In only one case, 30049, were additional life preservers required. The action of the Secretary, with the recommendations of each subordinate officer who considered these cases, may be found in the statement.

Within a short time after the *Slocum* disaster, on reinspection of only 268 vessels at New York, 18 per cent of the fire hose and 18 per cent of the life preservers were found defective. [a]

I am not called upon to express an opinion why, in four years, no penalty case of defective fire hose was reported from New York, only one case where more life preservers were required by inspectors, and no case where a vessel was "navigated" with defective life preservers.

Officers' qualifications.—Only 15 cases of officers without licenses or with inadequate licenses have been reported in four years, and in only one of these cases was there a question of the man's competency. In 25969, the master was fined for employing an engineer with inadequate papers. He had already dismissed the man. In three cases (28524 of engineer, 29628 of master and pilot, and 33772 of engineer) the men had papers qualifying them to serve on ocean steamers, and supposed they were thereby qualified to serve on smaller vessels. In 29628 the collector says:

"In answer to the charges Captain Crockett stated to the United States local inspectors that his papers cover ocean steamships and sailing vessels in all waters, and he supposed that they covered the work on the water boat *Jimmy*, and he therefore did not apply for any special pilot papers." The water boat *Jimmy* is of 11 tons. In 27927 the engineer's papers (acting as substitute for his chief, just killed) qualified him for a 175-ton vessel, but the vessel was of 178 tons. In 31202 the mate had failed to put his license in the glass frame, but went home to Brooklyn and got it. In 28530 and 29231 an extension of officer's papers to the Jersey shore was granted when the deficiency was noted. In this general classification has been included for convenience one case, 27090, where one engineer instead of two was employed. The Attorney-General, in an opinion dated September 17, 1903, has since held that local inspectors can not prescribe in a vessel's certificate of inspection the number of engineers, firemen, etc., to be carried.

Unlawful transportation of passengers.—Only 11 cases of the unlawful transportation of passengers were reported in four years. Of these, in four cases (28266, 28268, 28577, and 32937) vessels without certificates according to law or regulation were temporarily employed to carry workingmen to their homes in emergencies created by labor strikes. The complaints came from the strikers or those in sympathy with them, not from the inspectors. In one case, 28682, a freight vessel carried passengers one trip to supply the place of the passenger steamer, which had broken down.

[a] [NOTE.—On excursion steamers, where life is most at stake, the special commission reports a deficiency in life preservers of 33 per cent and in fire hose of 26 per cent.]

In one case of a gasoline vessel, 30765, the statute cited was not applicable, and the case was dismissed. In none of these six cases was there any question of peril to life, or of other than a technical violation of statute. In three cases, 29123, 29124, and 34018, passengers were carried by vessels without certificates to see the international yacht races, and penalties were imposed by the Secretary on the concurrent recommendations of the Commissioner of Navigation and the Supervising Inspector-General of Steam Vessels.

In two cases, 31746 and 31747, excess of passengers was carried to Coney Island, according to custom-house inspectors' count, disputed by owners. The collector of customs recommended favorable action in these cases, and the Secretary and his two subordinates named concurred in a fine of $25 in each case, perhaps not enough. This Bureau's recommendation was based in part on the consideration that on a suit by a private person under section 4465 one vessel would have been liable to $890, the other to $970 additional, recoverable by the individual.

Navigating on expired or defective certificate of inspection or none (not involving equipment itself).—The majority of applications (53 out of 85) have involved the navigation of vessels on expired or defective certificates or on none at all. The adequacy of the hull or equipment is not involved in these cases, nor is the thoroughness of inspection. In most of them the violation is technical and the action of the local inspectors is routine desk work. When, under section 4417, the owner of a vessel applies to the local inspectors for annual inspection, they compare the date of application with the date of issue of the outstanding certificate of inspection. If the interval between these dates is more than one year a penalty of $500 is incurred under section 4499, if the vessel has been "navigated" since the close of its inspection year. The inspectors' sole work is to ask the owner if the vessel has navigated on a lapsed certificate, and report the facts to the collector of customs. That officer notifies the owner that he is liable to a penalty of $500, but may apply through him to the Secretary of Commerce and Labor for mitigation or remission. The owner's application is made the basis of an investigation by the collector of the facts in the case, including any statement the inspectors may make, and the collector summarizes the evidence and sends it, with or without a recommendation, to the Secretary of Commerce and Labor (Bureau of Navigation).

These 53 cases do not readily admit of classification. Five vessels were in the service of the city of New York and one of the State of New York, and two were yachts, none of these cases involving a question of profit to the owner through employing the vessel on lapsed certificate. In 4 cases confusion of dates on Government papers was offered as an excuse, and in my judgment was quite probable. In 5 cases the owner or master in charge of inspection was ill at the time application should have been made. Two collectors of customs allowed clearance of vessels with imperfect certificates, and one certificate was lost in the United States mails. One case was improperly returned by the local inspectors, there being no navigation of the vessel. One case was clearly an emergency violation in the public interest (30129) and another (32993) based on a humane regard for illness and death. There is no evidence in any case to show the delay in securing inspection was because the vessel could not stand inspection, and did not, in fact, pass the inspection when it was obtained.

Respectfully, E. T. CHAMBERLAIN, *Commissioner.*

The SECRETARY OF COMMERCE AND LABOR.

The detailed statement sent to you on October 24 for the fiscal year ended June 30, 1904, covered 25 cases, while the table on page 698 shows 37 cases at New York. The difference is for the following reasons:

(*a*) The letter of October 24 used as a basis reports of the collector dated since June 30, 1903, while the facts herein stated begin with the Department's letters since June 30, 1903. The cases of the *Florence*, *Governor Flower*, and *Adamant* are returned for the fiscal year 1903 in the letter to you, because reported by the collector before June 30, 1903. In these tables they are included in 1904, because the Department did not decide them until after June 30, 1903.

(*b*) Case 35582 in the letter to you was treated as one case, only 1 substitute for 3 sick men being concerned. These tables are based on the vessel involved, and this man acted temporarily on 3 vessels.

(c) The 3 cases of sail vessels of over 700 tons under the act of 1898 were as follows:

34096. Schooner *Jennie French Potter*, reported for unlicensed mate. The chief mate was discharged South for intoxication. The master tried and failed to get a licensed mate at Fernandina, Savannah, Charleston, Brunswick, and Jacksonville, and then telegraphed to the Department for permission to come North without a licensed mate. It was granted and the penalty remitted.

33124. Schooner *Mary E. Suydam*, reported for defective pilot license. The pilot's license covered waters near New York, but did not include Great South Bay. The omission was supplied in the papers and all officers concerned recommended remission.

33349. The schooner *Republic*, reported for sailing on expired certificate of inspection. The schooner was at Savannah, Ga., when her certificate expired, and the master reported the fact to the collector of customs at that port. The master states the collector advised him to return to New York for inspection. The collector did not recall all the facts, but stated he did not question the master's memory. The vessel was inspected on return and the penalty remitted.

Inadvertently four cases were omitted from the letter of the 24th, as follows:

35093. The New York City fire boat *David A. Boody* was reported for navigating on an expired certificate and liable to a $500 fine. When her certificate expired two city fire boats were under repair, and a third in the dry dock. To have put the *David A. Boody* in dry dock for her annual inspection would have left the Brooklyn water front without a fire boat. The penalty was remitted.

35076. The *Robert E. Petty* was reported for navigating on an expired certificate. The vessel was inspected in due season, but her owners failed to get the certificate itself on board in time. All officers concerned recommended a penalty of $10 instead of $500.

34755. The *William F. Reed* was reported for navigating on an expired certificate. It lapsed on a Saturday, and the owners notified the inspectors the vessel would be ready for inspection at Ninth street, New York, on that day. The vessel ran aground that afternoon and reached the appointed place Monday. She did not remain at Glen Cove for inspection, because the factory usually furnishing steam to work her pumps on inspection was shut down. She came from Glen Cove to Ninth street for her inspection and was technically liable to $500 penalty. It was reduced to $25.

35584. The *Meteor*—one engineer instead of two. No case under the Attorney-General's ruling.

Philadelphia.—Of the 23 other penalty cases in the second steamboat inspection district, 8 were reported from Philadelphia, none involving the vessel or its equipment. During the marine engineers' strike three vessels were reported for being one engineer short of local inspector's requirements. The Attorney-General has held that local inspectors have not the power to fix the number of engineers. Four sail vessels over 700 tons were reported without licensed mates for various reasons. One vessel was without a licensed master. The difficulty in obtaining licensed officers for sail vessels begins at Philadelphia and increases toward the South, for obvious reasons.

Boston.—Three vessels were reported for navigating on overdue or defective certificates of inspection, one man confusing the date of his

boiler inspection with that of his vessel's inspection; another failing to get an indorsement of a change of route, and the third being a launch used to carry its owner from Boston to his summer place on a harbor island. The remaining Boston case was that of the master of an inspected schooner who did not have his license framed under glass.

Other ports.—At Albany, N. Y., the revenue cutter officers reported one vessel for navigating beyond the geographical limits of its certificate, but the steamboat inspectors reported it was within limits. One vessel navigated on an expired certificate, the delay being alleged to be due to bad weather. Sag Harbor, N. Y., reported one defective pilot's license, his papers qualifying him for a 150-ton vessel while the vessel was 154 tons. Newark, N. J., reported one vessel for navigating on an expired certificate. Its owner was superintending the trial trip of the monitor *Florida*, and was delayed in a fog beyond the date when he had arranged for the inspection of his vessel. Meanwhile the tug made a few short shifts at Nixon's shipyard. The master's license of another tug was not framed in glass. As the tug was laid up, the master put it away for safe-keeping. Another vessel failed to keep a record of passengers on Greenwood Lake. At Perth Amboy, N. J., a mate's license was not framed in glass. He went home to Jersey City and got it. At Hartford one vessel navigated on expired certificate, the owner confusing dates. At New Haven an oyster vessel navigated without a certificate; it had passed inspection, short one life preserver, and made a trial trip, as claimed by the owners, without waiting for the certificate. At Providence, R. I., a licensed pilot with Long Island Sound and Point Judith papers lacked an indorsement for Narragansett Bay. The only foreign vessel reported for violation of inspection laws in these great centers of foreign shipping was the British steamship *Dominion*, reported at Portland, Me., for navigating on an expired certificate. Owing to the chief engineer's death the matter had been overlooked.

THIRD DISTRICT.

The third district embraces the waters of the Atlantic coast, rivers and tributaries between Cape Charles and Cape Sable. During the fiscal year 1903, 967 vessels were inspected. The inspectors during that year reported 15 violations of law to collectors of customs and 2 violations in 1902. During the past fiscal year 16 applications for mitigation of penalties have come from that district. From Norfolk, Va., 8 cases were reported during the marine engineers' strike, where one engineer was employed instead of two, as prescribed by the inspectors in the certificate for the number of hours run. In the Piedmont, one of these cases (33358) the Attorney-General ruled, September 17, 1903, that the local inspectors have no authority to prescribe the number of engineers or firemen in the certificate. One sail vessel and one gasoline vessel were reported from Baltimore for navigating on expired certificates. One schooner was reported at Brunswick, Ga., for the same cause. Newbern, N. C., and St. Augustine, Fla., returned each one case of an unlicensed pilot. From Jacksonville, Fla., and Washington, D. C., one engineer without license was reported, on application, for remission. The Washington man ordinarily was employed on the Army tug *Gibbon* and had civil-service papers as an engineer, but not inspectors' papers for the one trip on a private vessel.

FOURTH DISTRICT.

The fourth district embraces the Mississippi River and tributaries from above Greenfield, Mo., up to and including Keokuk, Iowa; the Illinois River below Peoria, and the Missouri River up to the mouth of the Niobrara River at its junction with the Missouri. During the fiscal year ended June 30, 1903, 163 vessels were inspected in this district. There have been no applications for remission from this territory. It is to be remarked that the inspectors during the fiscal year 1903 reported only 1 violation to collectors of customs and during the fiscal year 1902 none.

FIFTH DISTRICT.

The fifth district embraces the upper Mississippi River and its tributaries above Keokuk, Iowa, the Red River of the North, and that part of the Missouri River and its tributaries above its junction with the Niobrara River, and all that portion of Lake Superior bounded by the States of Minnesota and Wisconsin. During the fiscal year 1903, 346 vessels were inspected. In that year the inspectors reported 8 violations to officers of customs, and in 1902, 10 violations. During the past fiscal year 2 penalty cases came before the Department, one for navigating on an expired certificate of inspection, the other for defective equipment.

SIXTH DISTRICT.

The sixth district embraces the Ohio River and its tributaries up to and including Carrollton, Ky., and the Mississippi River and tributaries from Greenville, Miss., up to and including Greenfield, Mo. During the fiscal year 1903, 301 vessels were inspected. During that year the inspectors reported to customs officers 6 violations of the laws and regulations, and 8 during 1902. During the past fiscal year there have been only 3 applications for remission from this territory, all from Memphis. Following is the owner's statement of one case:

POPLAR BLUFF, MO., *August 15, 1903.*

DEAR SIR: Some time in the month of July, 1903, I had a contract with Mr. Cooper to take some hay and corn down the river to his camps (tie and piling). I had Grant Boothby, a licensed pilot, hired to do my work, but as I had no steady work, could not afford to keep him employed steadily, but before this he always went with me. I notified him that I needed him and went on taking the load; when ready to start I again notified him. He made an excuse of having to help on some carpenter work on a barge and would not go. Pilots here are scarce, he being the only one not on a regular run. I made the trip without him, as I was destitute, and needed the money to buy actual provisions necessary to live. The next trip was the same as the first, except that we had to move a house. I made two more trips without him. This river is small and shallow, so much so that larger boats (30 tons) can run only part of the year. My boat is a 6-ton boat and my only means of livelihood. I am now 66 years of age and had no intention of violating the marine laws. It was necessity that drove me to do as I have done. I was called to Memphis and a penalty of $100 in each case was assessed against me, making in all $300. I am not able to pay the fine, and if my boat is taken from me, don't know what I will do. Mr. Boothby would promise on each occasion to go, but would have some excuse when the time came to go. Now, if you in your judgment think I have been justified in running without a pilot, I humbly beg that you will overlook the offense this time. I am old and not able to do anything very much toward making my living, and I hope you will remit the penalty and I promise you that it will not occur again.

Hoping that I may hear from you favorably, I remain,

Very respectfully,

W. F. STARNES,
Steamer Bernice.

SECRETARY OF THE DEPARTMENT OF COMMERCE AND LABOR.

One vessel navigated about eighteen days on an expired certificate, and one unlicensed engineer was reported.

SEVENTH DISTRICT.

The seventh district embraces the Ohio River and tributaries above Carrollton, Ky. During 1903 in this district 329 vessels were inspected. There were no applications for remission during the past fiscal year from this territory. During the fiscal year 1903 the inspectors reported only 2 violations to chief officers of customs and during 1902 7 violations.

EIGHTH DISTRICT.

The eighth district embraces all the waters of the lakes north and west of Lake Erie, with their tributaries, except that portion of Lake Superior which is bounded by the States of Minnesota and Wisconsin, and also includes the upper portion of the Illinois River down to and including Peoria, Ill. During the fiscal year 1903 1,045 vessels were inspected in this district. During the same year 4 violations of the laws were reported by the inspectors to collectors and 18 cases during 1902.

Chicago.—Of the six applications from Chicago, four were for relief from penalties for navigating on expired certificates, one vessel being a city fire tug (also defectively equipped), one a city bridge boat. One launch carried passengers without a permit, and one steamer carried a party without an excursion permit, subsequently granted.

Marquette.—Three cases were of vessels navigating on expired certificates, the local inspectors being overworked. One tug took some men from sail vessels in heavy seas without a passenger certificate, and another took some of the owner's friends a mile and a half without a passenger certificate. One master's license was for 100-ton vessels and he served on a vessel 136 tons. One case involved the carrying of 41 passengers in excess of the certificate allowance, the count being called in question.

Other ports.—From Grand Haven and Port Huron one vessel each was reported for navigating on an expired certificate, and from Milwaukee one case of an unlicensed engineer was acted on.

NINTH DISTRICT.

The ninth district embraces all the waters of the River St. Lawrence, Lakes Erie, Ontario, and Champlain, and their tributaries.

During the fiscal year 1903 in this district 946 vessels were inspected. No applications for remission have been received from this district during the past fiscal year. It is quite noteworthy that with about 1,000 vessels subject to the many requirements of these laws the inspectors reported only 3 violations to officers of customs during the fiscal year 1903 and only 2 during 1902.

TENTH DISTRICT.

The tenth district embraces the coast and tributary waters of the Gulf of Mexico, between Cape Sable and the mouth of the Rio Grande, and the Mississippi River and tributaries to Greenville, Miss.

During the fiscal year 1903, 715 vessels were inspected in this district. During the same year 4 violations of the law were reported by the inspectors to collectors of customs and 11 cases during 1902.

Fourteen penalty cases were acted on by the Department last year.

Galveston.—In 2 cases branch pilots were reported, one for being without a master's license and the other a mate's license, and one licensed pilot acted beyond the geographical limits of his papers. One vessel carried 79 passengers in excess of her certified number. One self-propelling dredge was reported for 2 distinct violations—for using petroleum as fuel without permit, and for having no licensed engineer, the owners contending that when stationary as a dredge the vessel was not subject to the inspection laws.

Other ports.—One vessel without a licensed engineer was reported from New Orleans and one Danish vessel was reported for carrying 2 passengers without a passenger certificate. One vessel was reported for carrying passengers without certificate and without licensed pilot. At Mobile one schooner was reported without a licensed mate, the master having waited twelve days in search of one. At Apalachicola one vessel was reported for carrying 68 deck passengers not provided for in her certificate; a former certificate permitted 200. One unlicensed engineer was reported from Cedar Keys.

SUMMARY OF STEAMBOAT CASES.

The 184 cases just outlined may be summarized in four groups of radically different offenses: First, those in which the certificate of inspection alone is involved; second, the qualifications of licensed officers so far as involved in the license. In these two groups the sufficiency of a document or paper issued by the Government alone is involved; the question is not of the actual condition of the hull, boilers, machinery, and equipment of the vessel, or of the skill and qualifications of the licensed officers. The third class of cases involves the unlawful transportation of passengers, either by vessels not certified for the passenger trade, or by certified vessels carrying more than the number stated in the certificate. The fourth class is of those where an actual defect in the vessel, her hull, machinery, or equipment, in violation of statute or regulation based on statute, is involved. Following are the applications for remission during the past fiscal year thus grouped:

Inspection district.	Navigating on expired or defective certificate or none.	Officer's qualification.	Unlawful transportation of passengers.	Defective equipment.	Total cases.	Vessels inspected in year ended June 30, 1903.
First	1	13	7	53	[a]75	1,230
Second	36	18	2	4	60	3,284
Third	3	12			15	967
Fourth						163
Fifth	1			1	2	346
Sixth	1	2			3	301
Seventh						329
Eighth	8	2	5	1	16	1,045
Ninth						946
Tenth		8	4		[b]13	715
Total	50	55	18	59	184	9,326

[a] Including 1 gunpowder case. [b] Including 1 petroleum case.

DEFECTIVE EQUIPMENT.

During the fiscal year there have been reported, on applications for remission, 59 cases of defective equipment of 9,000 vessels navigated under the Government's guaranty by certificate that they "may be used in navigation * * * * with safety to life." Of these 59 cases, 52 have been outlined on pages 700 and 701. They were the result of an inspection, under direction of the collector of customs for the Puget Sound district, conducted by three revenue-cutter officers. All the machinery for inspection in all the rest of the United States has disclosed to the Secretary of Commerce and Labor, on remission appeal, only 7 cases of violations of statute law, which covers about 15 pages and of as many more pages of regulations. Briefly the cases are:

1. At Astoria, Oreg., one vessel was reported for not having on board two copies of the pamphlet containing Title LII of the Revised Statutes, and for this failure the master, under section 4494 Revised Statutes, became liable to a penalty of $20.

2. At New York, one tug was reported for not having a lawful fusible plug. The vessel had a fusible plug, but it was not of the types registered in the local inspectors' office.

3. At New York another vessel was reported for not having a fusible plug. The owner bought the fusible plug as instructed, but on account of ice in New York Harbor could not hire a tug to reach the vessel and put the plug in place.

4. At New York a steam canal boat was reported to have navigated, "although short of equipments," without a certificate of inspection. None of the papers in the case disclose the nature of the shortage. The case turned, not on equipment, but on misstatements as to the dates of navigation.

5. At New Haven an oyster steamer was reported to have been navigated on expired certificate, short one life preserver, and requiring new bell wires. The owners claim the navigation was on trial trip after repairs.

6. At Chicago the city fire tug *Chicago* was reported to have been navigated short one rib in the lifeboat and with the letters of the boat's name on the pilot house 5 inches instead of 6 inches high. This equipment had been ordered when the vessel navigated to her fire station at South Chicago.

7. At Duluth the safety valve of a vessel on inspection could be secured to get 145 pounds instead of 150 pounds, and the vessel carried passengers one day before it had been repaired and inspected again to withstand the prescribed pressure.

That the 8,000 vessels outside of Puget Sound, subject to inspection, fell short of the requirements of the law and regulations only in the particulars mentioned severely taxes credulity. Perfect inspection and perfect compliance with law could accomplish little more.

Possibly other defects of equipment were found and remedied in another method than through the imposition of penalties.

By section 4405, Revised Statutes, the Board of Supervising Inspectors is authorized "to establish all necessary regulations required to carry out in the most effective manner the provisions of this title (regulation of steam vessels) and such regulations when approved by the Secretary of Commerce and Labor shall have the force of law." In

the exercise of this authority the Board of Supervising Inspectors has issued Rule 15, which reads (italics not in official copy):

It shall be the duty of the master of every inspected steamer of 30 net tons and over, carrying passengers on the ocean, lakes, gulf(s), or bays, when such steamer is under way, to cause to be prepared a station bill for his own department, and one also for the engineer's department, in which shall be assigned a post or station of duty for every person employed on board such steamer in case of fire or other disaster, which station bills shall be placed in the most conspicuous places on board for the observation of the crew. And it shall be the duty of such master, or of the mate or officer next in command, once at least in each week, to call all hands to quarters and exercise them in the discipline, and in the unlashing and swinging out of the lifeboats, weather permitting, and in the use of the fire pumps and all other apparatus for the safety of life on board of such vessel, and *to see that all the equipments required by law are in complete working order for immediate use;* and the fact of the exercise of the crew, as herein contemplated, shall be entered upon the steamer's log book, stating the day of the month and hour when so exercised, and *any neglect or omission on the part of the officer in command of such steamer to strictly enforce said rule shall be deemed cause for the revocation of the license of such officer.* Upon navigable rivers the captains of all passenger steamers of 30 net tons and over shall be required to maintain a strict discipline and organize the officers and permanent crew so as to act with promptness in case of fire or other disaster, and the captain shall cause to be prepared at least two station bills, assigning the officers and permanent crew to definite places. Said station bills shall be conspicuously placed, under glass, near the inspection certificate.

Any neglect of the master or mate of a steam vessel under way at least once a week to call all hands to quarters and "to see that all the equipments required by law are in complete working order for immediate use" is thus deemed "cause for the revocation of the license of such officer," the severest penalty for a civil offense which could be imposed upon him. The power to revoke carries with it, presumably, the power to suspend the license. So far as passenger steamers are concerned, this rule seems to afford a remedy for equipment defective under the law. How many masters have been placed on trial for revocation or suspension of license for violation of its provisions during the past fiscal year will doubtless appear in the detailed reports of the supervising inspectors, which are included in the annual report of the Supervising Inspector-General. Possibly few instances of defective equipment have come before the Secretary of Commerce and Labor in remission cases, because local inspectors, on ascertaining defective equipment, have themselves under regulation for their guidance applied a penalty more efficacious than any which the Secretary of Commerce and Labor can lawfully impose.

Posting notices of life-preservers elsewhere than in staterooms (27 cases at Port Townsend), entering boat and fire drills on the log (9 cases), marking axes, oars, buckets, and boats (17 cases), putting in position misplaced axes and buckets and keeping the latter filled with water (16 cases), keeping life lines in place in lifeboats (8 cases), keeping boat falls and guys in working order, and plugs and oars in place—these and similar matters are plainly the duty of the officers of the ship and can not be performed by the owner unless he takes command. The rule of the Board of Supervising Inspectors is a more just and expeditious method of keeping the fire-extinguishing and life-saving apparatus in working order when once put aboard by the owner than the imposition of a money penalty on the owner for conditions he can remedy only by constant presence on board. At the annual inspection the owner may be required to place what is needed on board.

Few cases of defective fire-extinguishing and life-saving equipment have come before the Department. In the report of the Bureau for

1903 a comparison was made of casualties (total losses and accidents) to American and foreign seagoing vessels based on the returns of the Bureau Veritas for the seven years from 1896 to 1902, inclusive. (Report 1903, pp. 18–25.) In some respects American vessels compared very favorably with foreign vessels, especially in relative immunity from collisions where the skill of deck officers is particularly involved. In some other respects the comparison was less favorable. On the two matters especially involved in inspection the returns for seven years seemed to warrant the following conclusions, which, with the consent of the head of the Department, were printed:

> The American steam fleet contains a considerable proportion of wooden hulls, while foreign steamers are usually steel. Still it is not pleasant to notice that while the loss of 18 per cent of lost American steamers may be charged to fire, the loss of only 4 per cent of lost foreign steamers is charged to this cause; that while 8 per cent of damaged American steamers suffered from fire, only 5 per cent of foreign accidents came from this cause; that 4 per cent of lost American sail vessels were burned and only 2 per cent of lost foreign sail vessels were burned. The only relieving feature of these particular figures is that the proportion of accidents from fire to American sail vessels—3 per cent of the total—was the same as to foreign sail vessels. The situation disclosed may be corrected. Whether that correction should come from the underwriters or from the Government in its legislative or executive branch is not now considered. * * *
>
> The principal cause of accidents to American steamers lies in the engines and boilers, to which 29 per cent of our steamer accidents are charged, compared with 24 per cent for foreign steamers. Collision (31 per cent) is the principal cause of British steamer accidents; stranding (31 per cent) of German accidents. Accidents to engines and boilers may be due to defective original construction, to inadequate repairs, or to faults of the men in charge of them. Generally speaking, American machinery holds a high place in the world's esteem, and while positive evidence is not at hand, it still seems probable that American marine engines and boilers are equal to those of foreign make. If that be so, then the large proportion of accidents from engines and boilers must proceed from one or both of the other two causes mentioned.
>
> Taken together, the returns of losses of American steam and sail vessels, compared with foreign losses, do not warrant a relaxation of our present system of Government inspection of vessels and officers. On the contrary, they suggest the propriety of a revision of our present inspection laws.

OFFICERS' QUALIFICATIONS.

Under this head are assembled the 55 cases involving the licenses of masters, mates, pilots, and engineers. For convenience, with them are included the 13 cases in which the number of engineers on board was involved. The form of certificate of inspection provides a space in which the local inspectors for many years in the case of passenger vessels, and of later years in the case of other vessels, have inserted the number of engineers, firemen, etc., who, in their judgment, should be employed on the vessel. The Attorney-General has ruled, basing his opinion in part on a decision of the United States district court, that the local inspectors have no authority to make this regulation. Under that ruling and decision these 13 cases were dismissed or penalties refunded. For convenience also are here included 3 cases of officers who had licenses, but failed to keep them framed in glass under a penalty of $100 or the revocation of the license, as prescribed by section 4446, Revised Statutes. The imposition of the lesser money penalties in whole or in part is intrusted to the Secretary of Commerce and Labor. The imposition of the weightier penalty, revocation of license, which may mean loss of the means of livelihood to a licensed master, mate, engineer, or pilot, is intrusted to the local inspectors, and on appeal to

the supervising inspector, but over their action in this matter the head of the Department has no statutory control. Under section 4 of the act of July 5, 1884, it is suggested that this is a "particular" of law which "admits of improvement."

Cases involving the substantial qualifications of licensed officers, their seamanship, their skill as engineers or pilots, their clearness of head and eye, and promptitude of action in time of danger, do not come before the Secretary of Commerce and Labor. Such cases are determined by the local inspectors while the Secretary of Commerce and Labor is deciding the amount of penalty to be levied on an engineer (and his employer, in equal amount) whose papers qualify him to run a large marine engine in New York, but do not show an indorsement for a smaller engine on Puget Sound; or on a pilot (and his employer also) certified as competent to take a Morgan liner from New York to New Orleans or Galveston, but without an indorsement as to his capacity to pilot the water tender *Jimmy* of 11 gross tons about New York Harbor. Many of the cases of remission of penalties involving licensed officers have been outlined in preceding pages. With possibly four or five exceptions, the employment of unlicensed men was a plain necessity, and the employment of licensed men whose papers differed as to tonnage or route from those of the vessel on which they served was a technical violation of regulation framed under authority delegated by Congress, which, by the legislation of over one hundred years, has indicated that penalties in such cases, if imposed at all, are to be reasonable and adjusted to conditions. It was plainly the statutory duty of inspecting officers to report these cases, and as plainly the statutory duty of the head of the Department to mitigate the penalties.

UNLAWFUL TRANSPORTATION OF PASSENGERS.

Eighteen applications for the remission of penalties for violation of laws governing the transportation of passengers have been acted upon. In four of these the offense was technical, one tug on Greenwood Lake and one freight vessel, temporarily permitted to carry passengers, failing to keep the statutory list, one British vessel without passenger certificate having a stowaway on board, and one Danish vessel without passenger certificate being charged with carrying several passengers. In the last case on-lookers from the dock thought they saw several passengers aboard. The entire penalty was imposed in one case at Galveston, of an excursion steamer carrying 79 passengers beyond her certified limit. Whether individual passengers also sought redress under section 4465 the Bureau is not advised. The case was aggravated by an attempt to mislead the Department as to essential facts. One case at New Orleans dates back to 1877. In that year, a steamboat sunk and seven persons were lost. The investigation by the local inspectors afterwards showed she was a freight vessel carrying passengers. The full penalty was imposed at the time. The case arose this year on an offer to compromise, to which the United States attorney was opposed. The Department acted in accord with his views. At Apalachicola a vessel carried 68 deck passengers not covered by her certificate, but a former certificate permitted 200 deck passengers.

The deputy collector of customs at St. Michael requested one steamer to bring 42 extra passengers back to Puget Sound on its last trip,

stating that "it would be little short of criminal" to leave them to winter on the island, as there were not provisions enough to go around. The mayor and common council of Nome, for similar reasons and under similar circumstances, requested another steamer to bring back passengers before winter set in, though the vessel had no passenger certificate. One Chicago steamer, usually in excursion trade, on one occasion carried an excursion without the usual document, which was issued shortly afterwards. One tug at Marquette took aboard several men from small sail boats who were assisting the tug in handling a raft of logs. The weather was heavy and the tug seemed safer than the small boats, but the tug had no passenger certificate. One tug at New York carried guests of the owner to see the international yacht races without a passenger permit. It was fined $250, chiefly because the exceptional conditions of navigation during such races require the most rigid adherence to all regulations. An honest belief that the passenger act of 1882, by which two children under 8 years count as one, applied to an excursion boat on Puget Sound, led the managers of one vessel to carry an excess of 24 passengers on a Labor Day excursion. One vessel at Marquette was charged with carrying an excess of 41 passengers. The evidence showed that the master, who was a cripple, had called in the police to prevent more than certificated number coming on board, and, furthermore, was without means to meet a heavy penalty. After several considerations the penalty was reduced to $25. Three launches and one tug at various ports carried a small number of men short distances without passenger certificates.

NAVIGATING ON EXPIRED CERTIFICATE.

The intent of Congress was undoubtedly to require the owner of a steam vessel once a year, presumably at a time convenient to him and the trade he serves, to submit his vessel to Government inspection and to impose a penalty upon him if he failed to do so. On this construction, rather than on the statute itself, is based the practice of imposing any penalty whatever on the owner for failing to have in force a certificate of inspection issued annually. The practice would be on an insecure basis, were it not for a decision of the U. S. district court (8 Ben., 251), from which, however, no appeal was taken. The section which is construed to require annual inspection, under penalty on the owner reads:

4417. The local inspectors [of steam vessels] shall, once in every year, at least, upon application in writing of the master or owner, carefully inspect the hull of each steam vessel within their respective districts, and shall satisfy themselves that every such vessel so submitted to their inspection is of a structure suitable for the service in which she is to be employed, has suitable accommodations for passengers and the crew, and is in a condition to warrant the belief that she may be used in navigation as a steamer, with safety to life, and that all the requirements of law in regard to fires, boats, pumps, hose, life-preservers, floats, anchors, cables, and other things, are faithfully complied with; and if they deem it expedient they may direct the vessel to be put in motion, and may adopt any other suitable means to test her sufficiency and that of her equipment.

The language of the section, however, imposes only one plain duty, that of the local inspectors "once in every year at least" to inspect a vessel. The inspection must be "upon application in writing of the master or owner." The section imposes no penalty, the penalties being found in sections 4499 and 4500, Revised Statutes, as follows:

4499. If any vessel propelled in whole or in part by steam be navigated without complying with the terms of this Title [R. S., 4399–4500], the owner shall be liable to the United States in a penalty of five hundred dollars for each offense, one-half for the use of the informer, for which sum the vessel so navigated shall be liable, and may be seized and proceeded against by way of libel in any district court of the United States having jurisdiction of the offense.

4500. The penalty for the violation of any provision of this Title [R. S., 4399–4500], not otherwise specially provided for, shall be a fine of five hundred dollars, recoverable one-half for the use of the informer.

Whether local inspectors who do not inspect in the manner prescribed the vessels of their district become liable to $500 penalty in each case under section 4500 is a theme for casuistry. The matter is mentioned only because the peculiar form of the law itself seems to suggest that local inspectors, for their own protection, give notice to owners or masters in advance, so that the written application may be filed before the end of the inspection year. Doubtless in some instances such advance notices are issued, as some collectors of customs issue notices to owners of the coming lapse of annual licenses of vessels. The annual license for the coasting trade, prescribed by section 4321, Revised Statutes, under the penalty in section 4325, guarantees, in many instances, a supervision by the collector of customs over the date of inspection certificates, for section 4498 provides:

No license, register, or enrollment shall be granted, nor any other papers be issued by any collector or other chief officer of the customs to any vessel propelled in whole or in part by steam, until he shall have satisfactory evidence that all the provisions of this title [R. S. 4399–4500] have been fully complied with.

The responsibility for annual inspection is shared to an extent under existing law by Government officers with the owners and masters of vessels. Possibly a plainer obligation on the master or owner, or both, would be preferable, but in acting upon applications for remission of the penalty of $500 for overrunning the inspection year the state of the law must be considered. The extension of the inspection law to certain sail vessels in the act of December 21, 1898, is clearer in not requiring the local inspectors to await a written application by the owner or master before the annual inspection of such vessels. No special vigilance is required in discovering cases of navigation on lapsed certificates. They are almost invariably reported by the master or owner himself. The application for inspection is a notice of the coming or passed expiration of the former certificate. When the two dates have been compared it remains only to inquire the date of the last trip. If that is after the lapse of the former certificate, the penalty of $500 follows as a matter of course.

The desk work of comparing dates and asking a few questions is as far apart as the poles from the work of actually going on board a steamer and inspecting the hulls, equipment, boilers, and engines. The efficiency of the service depends on the latter, which must be performed by men of technical skill. The former work may be done by any young man of average intelligence and the keenness to discover a lie when told to him. Navigation on an expired certificate is a grave offense against public policy in three cases: (1) When the vessel is navigated without inspection, because defective and unable to pass inspection. Such cases do not arise or, at all events, do not reach the Department of Commerce and Labor on application for remission. (2) When changes in equipment have been ordered and before they have been supplied the vessel is put into trade without a certificate.

Such cases are rare, and in this report have been treated as cases of defective equipment. Cases, however, do arise where defective equipment has been made good upon inspection and the vessel thereupon goes into trade before the document which testifies to inspection has been put on board, framed under glass. The method of supplying these certificates [R. S. 4421, 4423] is cumbersome. When the inspectors have found a vessel all right, they prepare a certificate to that effect, and mail it to the collector. That officer makes three copies and mails them to the owner. Then the owner frames two of them under glass. While all of this desk work and post-office work is in progress, the vessel is tied up at her wharf, technically liable if she moves, without a framed copy of a certificate to inspected facts, to the same penalty, $500, as if her hull were corroded, her fire-extinguishing and life-saving appliances defective, and her officers and crew short-handed. (3) When the master or owner does not tell the truth and perjures himself to the Government to try to escape a possible penalty. These cases seem also to be, fortunately, rare.

During the year there have been 50 applications for the remission of penalties for navigating on expired or defective certificates or none (not involving equipment). During the past four years at New York there were 53 such cases.

SURRENDER OF LICENSE.

Licenses are issued annually by collectors of customs, authorizing vessels to engage in the coasting trade or the fisheries under Revised Statutes 4321. By Revised Statutes 4325 (act of Feb. 18, 1793) the license of a vessel must be surrendered to the collector who granted it within three days after its year has expired, under penalty of $50 imposed on the master. In certain cases specified in sections 4325–4326 the penalty is not incurred. On June 30, 1903, there were 9,020 licensed vessels of the United States under 20 tons and 14,235 enrolled vessels over 20 tons which also carried licenses. During the past fiscal year 95 applications for the remission or mitigation of the penalty for violation of this section were acted upon. The section operates automatically. The records of every collector of customs show when licenses were issued in his district and, of course, when they expire. In some of the larger and more efficiently conducted custom-houses it is the practice to send notices to masters or vessel owners some days in advance of the expiration of these licenses so that they may be surrendered within the "three days' grace" allowed by the statute.

Thus at Baltimore, which issues annually over 1,000 such licenses, only one case was reported of failure to surrender the document. Such notices are an accommodation on the part of collectors, and are of advantage in keeping the records clear of unintentional violations. The only disadvantage of the system appears when a master moves from a district where he has received these notices for several years to another district where the collector has not been in the habit of issuing such notices of expiration. In such cases the offender refers to his failure to receive notice, and the statement is entitled to some weight. The violations of this statute reported are almost invariably on the part of masters of very small sail vessels, who also own the vessels and earn a small living from them. The imposition of $50

penalty in such cases would amount to the confiscation of two months' earnings, and in some cases to confiscation of the vessel and its owner's and master's means of livelihood, for the law applies to vessels as small as 5 tons (i. e., internal contents, 500 cubic feet).

Appeals for remission or mitigation are more numerous under section 4325, than under any other one section of the Revised Statutes, and with due regard for the general efficiency of the customs service it may be doubted whether every violation under this section has been reported. It has been suggested that many of the penalties imposed by law are more severe than the Congress in these days on review of the acts of its predecessors would care to prescribe. Some of these very heavy penalties were mentioned in the report of the Bureau for 1897 (p. 49). It has been suggested that if Congress should fix lower penalties which would invariably be exacted, better enforcement of laws would follow. Section 4325 shows the difficulty in carrying out that somewhat crude plan. The penalty of $50 under that section, read alone, would fall on the master of one of a corporation's fleet of 3,000 or 4,000 ton steel steamers, whose marine papers are kept in order by one of the company's clerks employed for the purpose, and on the master and owner of a garden-truck bug-eye whose boat could not be sold for the amount of the penalty. The imposition of the same penalty in both cases would not be just, and to secure justice Congress intrusted the power to consider such cases on their merits to the Secretary of Commerce and Labor. It may, however, be questioned whether it is longer desirable to require very small vessels to be documented at custom-houses. Such vessels in most cases derive no benefit from custom-house papers which render their owners and masters liable to penalties which are heavy in proportion to the value of the vessel. The minimum tonnage for documented vessels in Germany is 17½ net tons, in Great Britain 15 tons, and in the United States 5 tons (Revised Statutes, 4331). A law exempting small vessels from license requirements would, of course, be carefully framed so that in border districts small foreign-built vessels could not secure reserved American trade privileges.

RULES OF THE ROAD.

Applications for remissions of penalties for violations of the rules of the road have been acted upon in 93 cases. The revised international rules for preventing collisions at sea have been adopted in substance for the regulation of vessels on the inland waters of the United States by the act of June 7, 1897, and on the Great Lakes and St. Lawrence by the act of February 8, 1895. The international rules do not contain specific penalties, but in collision cases the violation of any of these rules presumptively places the offending vessel at fault and liable for damages. This liability is the effective means of enforcing the international rules and, too, the Great Lakes rules and inland rules so called. These two statutes, however, carry also a section imposing a penalty of $200 for a violation of any of their provisions respectively. Applications for remission of this penalty for violating the rules for the Great Lakes are rare, the conditions of navigation compelling, without Government intervention, the careful compliance with law.

The inland rules of June 7, 1897, require every vessel to be equipped with "an efficient fog horn" and "an efficient bell." In the applications from Pacific coast ports the efficiency of the fog horn has usually been involved, for cases are rare in which a vessel has no fog horn. This efficiency is a matter, in part at least, of judgment. Where the claim has been made in good faith that one officer of the Government has recently approved a fog horn which later another considered "not efficient" the purchase of a new fog horn and the imposition of a small penalty has seemed enough to secure compliance hereafter with law. On the Atlantic coast, particularly at Baltimore and ports south of it, small vessels have been reported for having no "efficient bell." Such vessels are sailed by the owner with the help of one or two men or boys and when anchored in the sounds, bays, and rivers of the South in shallow water are left at times with no one aboard. The theft of bells is not infrequent. Applications for remission are considered only after a new bell has been put aboard.

For convenience are classed under this head violations of the act of March 6, 1896, by which, as amended by the act of February 14, 1903, the Secretary of Commerce and Labor is directed to prescribe regulations governing the movement of vessels in the St. Marys River from Point Iroquois to Point Detour. For violation of these regulations a penalty of $200 is incurred, and "the vessel, its tackle, apparel, furniture, and cargo" become subject to forfeiture. The forfeiture in some cases would amount to several hundred thousands of dollars. Nearly all the violations at lake ports, classed in the table under the head of "Rules of the road," have been incurred under this act. The statutes contain few, if any, other instances where so severe a penalty is imposed. This act was drawn by the shipowners of the Great Lakes, and their response to criticism of forfeiture as a penalty was that the penalty was to be held in terrorem over owners.

During the eight years of the law's existence a collector of customs has never been instructed to report a violation of it to the United States attorney for the purpose of instituting proceedings for the forfeiture of vessel and cargo. In the report of the Bureau for 1897 (pp. 49–50), soon after this law was passed, attention was called to this and other penalties which seem excessive. It is doubtless desirable in some cases (especially in the steamboat-inspection laws where a uniform penalty of $500 is fixed for the greatest diversity of offenses) to provide a heavy maximum penalty to be imposed in flagrant cases and to rely upon the discretionary power of the Secretary of Commerce and Labor to adjust a lower penalty to a less serious offense. Possibly, on further consideration, Congress may decide that the forfeiture of a vessel and her cargo for violation of a regulation of the Secretary is too severe a penalty, and that respect for law is not increased by providing such a penalty.

CONSULAR BILLS OF HEALTH.

By section 2 of the act of February 15, 1893, under penalty of not more than $5,000 every vessel entering a port of the United States is required to produce a bill of health in duplicate from the American consul at the foreign port of clearance, or from the officer of the Public Health and Marine-Hospital Service who may be stationed there, setting forth the sanitary condition of the port of clearance and the sani-

tary condition of the vessel, its cargo, crew, and passengers. The act was passed soon after the outbreak of cholera in Hamburg, which caused some dismay and entailed heavy expense at the port of New York. The maximum penalty, $5,000, is greatly in excess of penalties usually imposed by the laws of any nation for defective or missing ship's papers. The consular bill of health is a ship's paper, and its presence or absence in no essential manner, as a rule, involves a real sanitary question. The efficient Public Health and Marine-Hospital officers at danger points abroad, and the Associated Press and special news agencies, give the officers at American ports cable notice of essential changes in the sanitary conditions of foreign ports long before the ship arrives. Indeed, in the case of sail vessels and steamers on long voyages, these reports at times are necessarily more important than the report in the bill of health. The actual sanitary condition of the vessel, crew, and cargo on arrival is shown, of course, not by consular document, but by quarantine inspection.

Eighteen months after the act was passed Congress exempted from its operation "vessels plying between foreign ports on or near the frontiers of the United States and ports of the United States adjacent thereto" (August 18, 1894), the consular fee for the bill of health becoming a heavy and unnecessary tax on commerce in the case of vessels making short and frequent voyages to indisputably healthy northern ports. In the earlier years of the law's operations applications for remissions of penalties were frequently made on the ground that the vessel had no consular bill of health because there was no American consular officer at the foreign port of clearance. Collectors are now furnished from time to time with lists of the consular offices of the United States, so that vessels may not be reported for violation of the act when there has been no violation. In the early years of the act cases arose, and occasionally arise now, where the vessel carried only one consular bill of health, not the duplicate. The purpose of the duplicate is not entirely clear.

During the past fiscal year only 48 vessels from foreign ports have been reported for failure to produce the consular bill of health in duplicate. Returns of vessels entered during the year which were subject to this law are not now available, but on the basis of returns for 1903 the number was doubtless about 12,000. This requirement of law is almost automatic in enforcement, the master producing his bill of health at once to the quarantine or customs officer on arrival. It is improbable that either of these officers at any port has been derelict in reporting a vessel without the bill of health. The violations which have been reported have, as a rule, been on the part of smaller vessels whose masters personally attended to clearance papers. Steamers owned by corporations employing clerks especially to attend to ship's papers always are provided with bills of health. In the case of sail vessels and smaller tramp steamers the failure to produce the bill of health is usually attributed to the voyage being the first of the master to an American port and to his ignorance of our law; in such cases a bill of health issued by local authorities generally being presented. In most foreign countries only such bills, with or without consular visés are required. In other cases, at clearance the master was directed to proceed to a foreign port for orders and did not know whether he would then be directed to proceed to an American or other port. In other cases the vessel has cleared from several foreign ports

and taken out a bill of health only from the last one. The failure to produce a consular bill of health becomes a very grave offense when the purpose is to conceal sanitary conditions at the time and place of clearance. Such cases seldom arise.

NEW YORK ANCHORAGE REGULATIONS.

By the act of May 16, 1888, the Secretary of the Treasury was directed to define an anchorage ground for vessels in New York Bay and Harbor and to adopt and enforce regulations in relation thereto. For a violation of such regulations the owner, master, or person in charge of a vessel becomes liable to a penalty of $100. The act of February 14, 1903, creating the Department of Commerce and Labor, transferred the execution of this law, with other laws relating to vessels, to the Secretary of Commerce and Labor. While the law applies to foreign as well as American vessels, the 39 cases of violation which have come to the Department of Commerce and Labor on application for the remission of the penalty have been of American vessels. The cases have been nearly all of two classes—vessels which have been towed by harbor tugs to the anchorage grounds and yachts. Officers of the Revenue-Cutter Service report violations to the collector of customs at New York, usually in the form that a given vessel was at a given time found wholly or partly beyond the anchorage limits. In the case of towed vessels the applications for relief from penalties are based usually on the claims that the vessel was properly anchored but dragged her anchor and thus passed the limit, or that the tug did not bring the towed vessel to a proper anchorage. The owners or masters of yachts reported have usually claimed that the yacht was anchored within limits but swung with tide or wind, dragging anchor occasionally, partly outside the limits.

PASSENGER ACT OF 1882.

During the past fiscal year there have been 16 applications for the remission of penalties incurred under the passenger act of 1882, of which 13 have come from the port of New York. The act applies only to vessels carrying passengers other than cabin passengers from foreign countries not contiguous to the United States. Such vessels enter at relatively few customs districts. Nevertheless it is somewhat remarkable that only three violations of this law, with its numerous technicalities, have been brought to the Department's notice from principal seaports outside of New York. The vessels which come within the terms of this act are as a rule owned by large corporations, each operating many steamers. Their magnitude and the division of labor permit the assignment to special men of the task of securing compliance with the terms of the passenger act of 1882.

The safe navigation of an ocean steamer for a week or more, with a thousand or more souls on board and with millions of property in the steamer and its cargo, is a greater responsibility in itself than any which the Government of the United States entrusts to subordinates who apply the passenger act of 1882 and other acts considered in this report under the head of remissions. The officers of steamships win their places by more thorough tests of efficiency than civil-service regulations can prescribe. If equal capacity be conceded, this Depart-

ment must consider elements of personal responsibility There is little on the part of the Government officer reporting. If he is wrong he has been overzealous. The master of the ship looks at the matter from another angle. Violations of the passenger act are usually reported under section 2, which concludes:

> For violation of either of the provisions of this section the master of the vessel shall be liable to a fine of five dollars for each passenger carried or brought on the vessel.

Under this law the amount of penalty involved does not depend on the gravity of the offense, but on the number of passengers carried. Thus, if a vessel carries 1,500 passengers and the law is not complied with in the case of 7 or 8, the master is none the less liable for a penalty of $7,500. If, however, the steamer carries only 15 passengers and the master willfully violates vital provisions of the passenger act, his punishment is fixed by law at $75. As already stated, such extremes are mentioned only to demonstrate the difference in conditions under which the Department exercises its power of remission or mitigation.

The violations reported have turned on the interpretation of the words "a substantial and well-secured bulkhead," used to separate passenger compartments; on the lack of dining tables and seats (penalty $500) on vessels in the Mediterranean immigrant trade, where the immigrants don't want and won't use such tables, preferring to eat on the open deck; and on the condition of the vessel on arrival at New York when immigrants are preparing to go ashore, and the daily cleaning up of the ship has been delayed until those on board have been landed. The passenger act of 1882 is substantially a copy of the British law of thirty years ago. In several particulars it could be modified to advantage to meet present conditions.

INSPECTION OF ENROLLMENT AND LICENSE. (R. S., 4336.)

Section 4336 of the Revised Statutes, which repeats section 13 of the act of February 18, 1793, reads:

> Any officer concerned in the collection of the revenue may at all times inspect the enrollment or license of any vessel; and if the master of any such vessel shall not exhibit the same, when required by such officer, he shall be liable to a penalty of one hundred dollars.

This brief section consists of two distinct parts. The first part gives to any officer concerned in the collection of the revenue the right at any time to inspect a vessel's enrollment or license. Such inspection was desirable in the early years of the Republic for reasons which nowadays seldom appear. The second part of the section provides a penalty of $100 on the master if he refuses to exhibit his papers to the customs officer asking for them. The penalty is imposed for direct disobedience. During the year there have been 29 applications for remission of penalty alleged to have been incurred under this section.

In some cases the officer making the complaint has boarded the vessel in the absence of the master and has found no one on board able to tell where the license was kept. The vessels boarded almost invariably have been small sail vessels manned by one or two men in addition to the master. On going ashore the master has either locked up his vessel's papers for safe-keeping or has put them in his pocket for the same purpose. As the papers are of more value to him than

to anyone else this course is dictated by ordinary prudence. Willful refusal of a master to show his papers to an officer authorized by law to demand them for inspection is rarely reported. If such cases do arise the penalty is doubtless paid on reflection without application for remission. While there have been 29 applications for remission of penalties under section 4336, there have been few willful violations of the section.

DEFECTIVE MANIFEST. (R. S., 2809.)

Section 2809 of the Revised Statutes, which embodies section 24 of the act of March 2, 1799, provides:

> If any merchandise is brought into the United States in any vessel whatever from any foreign port without having such a manifest on board, or which shall not be included or described in the manifest, or shall not agree therewith, the master shall be liable to a penalty equal to the value of such merchandise not included in such manifest; and all such merchandise not included in the manifest belonging or consigned to the master, mate, officers, or crew of such vessel shall be forfeited.

In the eighteenth century the master of a ship was almost always its part owner, and frequently was the part owner of the return cargo. The temptation to attempt smuggling by omitting part of the cargo from the manifest was so strong that Congress enacted that merchandise so omitted should be forfeited and, in addition, the master should be penalized to its full value. Conditions have now radically changed. The master of an ocean steamer is usually the salaried employee of a corporation, with no direct ownership in the vessel or its cargo. His knowledge of the cargo is necessarily very limited, especially in the case of a large trans-Atlantic liner. The 37 cases of applications for remission of the penalties incurred under this section have ranged from cases where there was reason to believe the master of a tramp steamer was not vigilant in suppressing efforts at smuggling by his officers or crew to cases where, from the nature of the case, the master could not be held to strict account.

Usually the smuggled article has been tobacco in some compact and valuable form. Tobacco must appear on one of three papers: As merchandise on the ship's manifest, as ship's stores, or as the property of passengers in their declarations of the contents of their baggage. Failing to appear in one of these papers, it is forfeited, and the master becomes liable to a penalty equal to the value of the forfeiture. The actual smuggling itself, the seizure and forfeiture of the smuggled goods and the punishment of the actual smuggler are distinct violations of the customs laws, dealt with separately. The cases now under consideration relate solely to the master's measure of responsibility. In one case the master of one of the best known trans-Atlantic liners applied for remission of a penalty of $1,650 under this section on the following facts: Tobacco to the value stated was put in three trunks at the European port of clearance; these trunks were stowed naturally with passengers' baggage in the hold, and on arrival at New York the trunks were placed with other passengers' baggage on the dock.

When such baggage has been inspected the customs officers attach to it a label which secures its passage through the gates to the street. In this case those engaged in the smuggling secured some old labels, and attached them to the trunks containing the tobacco, which were then readily passed to the street. The real smugglers were subse-

quently detected and dealt with under other laws. The Department of Commerce and Labor in this penalty case had to adjust a statutory penalty of $1,650 on the master to his measure of responsibility for this violation of law. As ships were in 1799, responsibility would have been almost complete; as trans-Atlantic liners are in 1904, the moral responsibility was very small—was less, in fact, than that of the Government's own gate keeper, who passed old labels for baggage on a former trip as satisfactory evidence of rigid examination of passengers' baggage an hour before. These trunks, of course, had never undergone customs inspection, or they would have been stopped on the wharf. The elaborate system of inspection of passengers' baggage at New York failed—and for this failure doubtless sufficient reasons were supplied—while the penalty of $1,650 fell on the master of the ship.

For the safety of 1,500 lives and of property worth $6,000,000 or $7,000,000 in crossing the Atlantic, the master was responsible under the statutes of two countries, the decisions of courts and the necessary rules of the company which employed him. The Department's action was based on the belief that, with these responsibilities resting on him alone, Congress never intended that he should be liable for $1,650 penalty for a fraud on the revenue laws, originating on a dock in Germany and for its success depending on the acceptance by United States customs officers of canceled labels of customs inspection. This case is extreme in some respects, but the principles involved often recur. On the other hand, cases arise where the master's responsibility is as great as in the cases of a hundred years ago when section 2809 was enacted. These cases are reported especially from Key West and other Florida ports. The small vessels engaged in local trade with Cuba, or in fishing, attempt to smuggle aguardiente, cigars, or cigarettes under circumstances which admit of little doubt that the violation of law was with the master's connivance.

MASTER'S REPORT ON ARRIVAL. (R. S., 2774.)

The duties imposed by section 2774, Revised Statutes, on the master of a vessel arriving from a foreign port constitute what is usually termed the entry of the vessel. The section has remained unchanged since its original enactment in 1799, and that early American law was based, in its essentials, on British law of that time. There is no reason why a master should intentionally violate this law, which is based on world-wide maritime custom. The 12 applications considered for the remission of penalties incurred under the section have involved deviations from the form, not the essence, of the statute. During the fiscal year ended June 30, 1903, 21,018 vessels entered the United States and complied presumably with this statute.

Deviation from the statute in any one of its various particulars entails a penalty of $1,000 on the master. It is more probable, in view of the defects of human nature, shared by officers of the Government and officers of ships alike, that violations of this law in some particular have escaped the notice of customs officers, or have not been reported, than that its numerous details have been fully complied with in all but about 1 in each 2,000 cases.

NAME ON VESSEL (R. S. 4178).

The name of every documented vessel of the United States must be marked on each bow and, together with the home port, on the stern in a manner prescribed in detail by statute. If the vessel is not so marked the owner is liable to a penalty of ten dollars for each name so omitted. This law is section 4178, Revised Statutes, and was amended February 21, 1891, when Congress, among other things, reduced the maximum penalty from $50 as originally fixed December 31, 1792. This law is applicable to all the 24,200 documented vessels of the United States. Only 23 applications for the remission or mitigation of the penalty, ranging from $10 for one name omitted to $30 for the omission of all three names, have been acted on during the past fiscal year. The reasons assigned for omission have usually been that the vessel was being repainted and names temporarily obliterated, or that they had become defaced by rubbing against wharves. It seems somewhat improbable that only one American vessel in a thousand during the whole year has fallen short of this statutory requirement. The statute does not make it the duty of any particular officer to enforce this law, but violations are reported to collectors usually by their inspectors or by revenue-cutter officers. As a rule the vessels reported are small sail vessels.

CHANGE OF MASTER. (R. S., 4335.)

Any change in the master of a licensed vessel of the United States, of which there are over 23,000, must be reported to the customs house where the change is indorsed on the vessel's papers. Unless the change is so reported the new master is liable to the penalty of $10, prescribed by section 4335 of the Revised Statutes. For indorsing this change of master those collectors of customs whose salaries depend on fees from the Treasury receive in each case 20 cents. To a great extent the enforcement of the law is thus automatic. The penalty is small and doubtless has been paid without protest in some cases, as the preparation of papers in an application for remission involves some labor and expense. The few applications for remission have been by masters of small vessels who have assigned various reasons in palliation of their noncompliance with law. The law was originally section 12 of the act of February 18, 1793, and provides additional penalties, as in the case of registered vessels, which have lapsed through changes of law in the century past.

MISCELLANEOUS.

Applications have been considered in 94 cases for the violation of 29 different statutes where less than 10 cases have involved directly any one law, with a single exception. Of the 32 cases reported from New York, 23 have been for the remission of the fine imposed on the master of a vessel for violation of section 2872 of the Revised Statutes. The section provides that merchandise shall be delivered from a vessel only between the rising and the setting of the sun or by a special license from the collector of customs. Section 2873, Revised Statutes, provides:

If any merchandise shall be unladen or delivered from any vessel contrary to the preceding section, the master of such vessel, and every other person who shall know-

ingly be concerned, or aiding therein, or in removing, storing, or otherwise securing such merchandise, shall each be liable to a penalty of four hundred dollars for each offense, and shall be disabled from holding any office of trust or profit under the United States for a term not exceeding seven years; and the collector of the district shall advertise the name of such person in a newspaper printed in the State in which he resides, within twenty days after each respective conviction.

The statutory penalty is imposed in the case of other persons only when they are "knowingly" concerned in the violation of law; it falls on the master, if innocent, unless he invokes the power to remit bestowed by Congress on the Secretary of Commerce and Labor. The cases reported have been of masters of large ocean passenger steamers, where the duty on small packages of goods landed has not exceeded $25, and where the landing was shown to be without the master's knowledge. The Department's action in such cases does not affect the forfeiture of the goods landed or proceedings against persons knowingly concerned in the illegal landing. Where the amount involved exceeds $400, the vessel, by section 2874, Revised Statutes, becomes subject to forfeiture.

Besides these 23 New York cases under one section, the miscellaneous column comprises 71 cases reported by 31 collectors of customs for violation of 28 sections of the Revised Statutes or of later enactments. A penalty of $200 is imposed by section 2 of the act of February 17, 1898, on a foreign vessel carrying passengers between American ports. Since the annexation of Hawaii cases arise occasionally at Honolulu or San Francisco when, on account of illness, death, or pressing business of a public nature, it is desirable that a passenger should take a foreign steamer bound for or from Asia in order to reach Honolulu or San Francisco at the earliest moment. Such cases are treated leniently.

In its recommendations to the head of the Department the Bureau bears in mind the familiar observation that the way to secure the repeal of an obnoxious statute is to enforce it literally, but it gives even more weight to the consideration that a good law can be rendered obnoxious by the method of its enforcement, a consideration which was in the mind of the first Congress that intrusted the power of mitigation or remission to the Secretary at the time in charge of shipping. Stowaways occasionally obtain passage surreptitiously between American ports on foreign vessels. The two kinds of violations of the coasting law just described constitute the only violations of law entitled to separate class designation. The remaining cases are sporadic, which do not admit of any summary statement.

ACCOUNTS OF COLLECTORS OF CUSTOMS.

By the creation of the Department of Commerce and Labor and the consequent change in methods of audit, the accounts of collectors of customs involving services to American vessels, navigation fines, tonnage duty, emoluments from navigation fees, fees under acts of March 3, 1897, etc., are now sent to the Bureau of Navigation for preliminary examination before transmission to the Auditor for the State and other Departments. On the average 500 such accounts are examined monthly. The additional work has been performed without any increase in the clerical force of the Bureau. Owing to its closer acquaintance with the navigation and tonnage laws under which these charges are imposed, and its possession of shipping records and information, the Bureau can ascertain effectually whether such charges are legally imposed and the system is an economy to the Government.

This preliminary examination of collectors' accounts has confirmed the opinion expressed in previous reports that some navigation fees now paid by the Government could with propriety be made payable by private interested parties, such payments, of course, being reported to the proper accounting officer. Recently a collector of customs granted 53 certificates of ownership in one day to the owners of one vessel, and charged the Government the statutory fee of $1 in each instance. Another collector recorded in one day for one vessel measuring but 346 tons, 46 bills of sale and charged the Government the statutory fee of 50 cents for each record. If the private persons concerned paid for the services mentioned fewer certificates of ownership would be requested by them from collectors. Bills of sale would often be consolidated if the holder were required to pay for having them recorded. The existing law presents a temptation to multiply such documents unnecessarily. The following recommendation of the report for 1898 is renewed:

For obvious reasons bills of sale, mortgages, hypothecations, and other documents relating to the title of ownership of vessels are recorded in the custom-houses. These records are open to inspection, and by section 4194, Revised Statutes, collectors are required to furnish to applicants certificates of material facts of record relating to ownership. Up to 1886 collectors were authorized to charge a fee of $1 for a search of title and the certificate of record. The act of June 19, 1886, abolished the payment by parties in interest of many fees which were burdensome on navigation, but provided that such fees, as a rule, should be payable from the Treasury. The fee of $1 above referred to was included in the fees mentioned by the act of 1886. The search of title and certificate of record of a vessel's ownership are not essentially public services, and there is no reason why fees for this purpose should be a charge on the revenues. At the last session the Senate passed unanimously a bill providing that this fee of $1 shall be paid by the parties directly concerned, and not by the Government. It has since been objected that local assessors frequently require such certificates in making out rolls of taxable property, and that they should not be required to pay the fee in the discharge of their duties. As all the facts which the certificate sets forth are matters of record, open to inspection, the objection does not seem valid. If assessors or private persons require copies of records from customs officers, they, rather than the Government, should pay the reasonable fee charged for clerical work.

Following is the text of the bill referred to, extended to include conveyances as well as certificates of title:

AN ACT providing for the collection of fees for furnishing certificates of title to vessels and for recording conveyances.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That collectors of customs shall collect and receive one dollar for each certificate furnished as mentioned in sections forty-one hundred and ninety-four of the Revised Statutes of the United States, and fifty cents for recording each bill of sale, mortgage, hypothecation, or conveyance of vessels, or for recording each certificate discharging or cancelling any such conveyance mentioned in sections 4193 or 4382, Revised Statutes of the United States. Section one of the act of June nineteenth, eighteen hundred and eighty-six, entitled "An act abolishing certain fees for official services," is hereby repealed so far as it authorizes the payment by the United States of any fee for furnishing such certificate or for such recording.

FRENCH MEASUREMENT LAWS.

The negotiations, through the usual channels, with the French Government for equality of treatment of American vessels with French vessels in French ports under the measurement laws, mentioned in last year's report, were satisfactorily concluded. As American vessels were allowed French deductions for net tonnage in French ports and thus placed on the plane of French vessels, instructions were issued in

February, 1904, to collectors of customs authorizing the acceptance of special certificates for French vessels of their measurement according to American law. So far as the Bureau is advised the system has worked satisfactorily. In September the French Government advised the Bureau of the adoption by France of the system of measurement used by the United States and Great Britain, and requested the acceptance hereafter of French certificates of measurement. The new French law is being compared with the acts of Congress and the British law, and appropriate action will be taken as soon as practicable. The negotiations have removed the cause of complaint that American vessels were not treated on an equality with French vessels in French ports. The adoption by France of the measurement systems employed by the United States, Great Britain, and Germany (with slight differences), will simplify the work of customs officers everywhere.

STATE TAXATION ON SHIPPING.

In the report of the Bureau for 1894 (pp. xliii–xlix), attention was invited to the heavy taxes on shipping as property imposed by the laws of some of our States on the seaboard or on the Great Lakes. The publication of these facts has been followed by considerable changes during the past ten years in the laws of some of the States, all in the direction of lower taxation of shipping. At the election on November 8, the people of California are to vote on the following proposed constitutional amendment:

SENATE CONSTITUTIONAL AMENDMENT NO. 11.

Senate constitutional amendment No. 11, a resolution to propose to the people of the State of California an amendment to the constitution of the State of California, amending Article XIII of the State constitution by adding thereto a new section to be numbered "one and three-quarters," relative to exemption of shipping from taxation. (Adopted March 6, 1903.)

The legislature of the State of California, at its regular session commencing on the 5th day of January, 1903, two-thirds of all the members elected to each of the houses of said legislature voting in favor thereof, hereby propose that Article XIII of the constitution of the State of California be amended by adding thereto a new section, to be known as "section number one and three-quarters," to wit:

"SEC. 1¾. All ships or shipping engaged in either foreign or domestic navigation, or in the fisheries, shall be exempt from taxation."

The adoption of this amendment will place California in the lead of the States of the Union in liberality toward shipping, and abreast of advanced European nations, in which only the income derived from shipping is taxable.

CONCLUSION.

I wish to record my grateful appreciation of the industry and fidelity of the clerks of the office, and especially my thanks to Mr. Thomas B. Sanders, Deputy Commissioner for many years, who for three months this year has been in charge of the Bureau.

Respectfully,

EUGENE TYLER CHAMBERLAIN,
Commissioner.

Hon. V. H. METCALF,
Secretary of Commerce and Labor.

See note on pages 728 to 730.

NOTE.—The report of the Commissioner of Navigation, as separately published, contains the following appendixes and statistical tables:

APPENDIXES.

(A) Reports of shipping commissioners—(1) Shipments, discharges, and expenditures; (2) Shipments and reshipments; (3) Discharges; (4) Nationality of seamen; (5) Failures to join; (6) Men shipped to be discharged abroad; (7) Allotments of wages; (8) Seamen shipped and discharged by collectors.

(B) Wages of seamen—(1) Average monthly wages paid in the American merchant marine for the year ended June 30, 1904; (2) Average monthly wages paid to able seamen on American vessels, 1894 to 1904; (3) Average monthly wages paid to first mates on American vessels, 1894 to 1904; (4) Average monthly wages paid to firemen and first engineers on American steam vessels, 1894 to 1904; (5) Predominant rates of wages of able seamen on British vessels, 1870 to 1903; (6) Predominant wages of firemen and trimmers on British steam vessels, 1895 to 1903; (7) Maximum, minimum, and predominant wages paid to first and second mates on British vessels for 1903; (8) Maximum, minimum, and predominant wages paid to engineers on British steam vessels for 1903; (9) Average monthly wages of mates, petty officers, engineers, and firemen on British vessels, 1870 to 1903.

(C) Consular reports of seamen shipped, discharged, and deserted from American vessels in foreign ports.

(D) Manning of vessels—(1) Sail area, tonnage, and crew of American vessels; (2) Proposed British manning scale; (3) Proposed Australian manning scale.

(E) Articles in treaties of the United States with foreign nations establishing reciprocity in shipping and concerning discriminating duties and export bounties—(*a*) Imports in American and foreign vessels, by countries, 1903; (*b*) Tonnage entries in foreign trade, by countries, 1903; (*c*) Foreign tonnage in American trade, 1903; (*d*) President Grant's proclamations.

(F) Legal opinions and decisions—(1) Opinions of Attorney-General on section 4136, Revised Statutes (repaired wrecks); (2) Application of section 5525, Revised Statutes, to crimping; (3) Medical treatment of seamen on shipboard; (4) Construction of section 4417, Revised Statutes.

(G) Tonnage taxes—(1) Law and collections for the past ten years; (2) Collections, by nationality of vessels, for the fiscal year ended June 30, 1904; (3) Collections at various ports during the fiscal year ended June 30, 1904; (4) Entries of American and foreign vessels at seaports since 1892; (5) Expenditures for maritime purposes of the United States since 1888.

(H) Registered steam vessels of the United States on June 30, 1904.

(I) Square-rigged American vessels on June 30, 1904.

(J) Loss of American vessels during 1904, with nature and place of casualty—Details of American seagoing losses.

(K) Steel shipbuilding of the United States—(1) Steel steam vessels built in the United States during the past ten years; (2) Steel vessels building or contracted for in the United States on July 1, 1904; (3) Price of steel ship plates in the United States and Great Britain.

(L) The world's large and fast ocean steamships—(1) Summary, by speed, for 1901, 1903, and 1904; (2) Classification, by speed and flag, for 1904; (3) Year of build of vessels, according to tonnage, and average size, by years; (4) Classification, by owners and speed; (5) List of steamers included in this appendix, showing flag, speed, owner, etc.

(M) The world's tonnage, motive power, and materials of construction—(1) Report of British Board of Trade; (2) Report of Bureau Veritas; (3) Report of Lloyd's Register; (4) Motive power and materials of construction of the world's merchant navies (Lloyd's); (5) Tonnage tables for a period of years, with potential tonnage (Bureau Veritas); (6) Vessels of over 100 tons built during eight recent years; (7) Summary of the world's shipbuilding for 1903 (Lloyd's); (8) Construction in progress September 30, 1904 (Lloyd's); (9) Vessels lost or broken up during 1903 (Lloyd's).

(N) Progress of foreign shipping—(1) Shipping of British Empire, with number of men employed; (2) Steam shipping of British Empire; (3) Vessels built in British Empire; (4) Steam vessels built in British Empire; (5) Tonnage built in United Kingdom for British and colonial register and for foreigners; (6) Vessels purchased from foreigners and registered in the United Kingdom; (7) Vessels belonging in the United Kingdom sold to foreigners; (8)

Vessels of the United Kingdom stricken from register for causes other than sale; (9) Trade of shipping of the United Kingdom and men employed; (10) Entries and clearances of vessels in foreign trade of United Kingdom, with percentage of British total; (11) Progress of German shipping; (12) Progress of Japanese shipping.

(O) Miscellaneous—(1) Foreign-carrying trade of the United States since 1821; (2) Tonnage of American and foreign vessels entered and cleared in foreign trade from 1821 to 1904; (3) Speed and voyages of trans-Atlantic and trans-Pacific mail liners during the fiscal year 1904; (4) Recent reports on shipping trade—(*a*) Angier Brothers' steam shipping report, 1903; (*b*) H. E. Moss & Co.'s steamship circular, February 20, 1904; (*c*) H. E. Moss & Co.'s steamship circular, September 30, 1904; (5) Rules for fishing vessels suggested by Great Britain for consideration of other nations; (6) Report on S. 2262 (derelict bill).

(P) British shipping policy—(1) British ocean-mail payments for 1903–4; (2) Foreign and colonial packet service, 1840 to 1903–4; (3) British reserve merchant cruisers; (4) Admiralty subventions since 1888; (5) British naval reserve appropriations; (6) Canadian-Mexican subsidy.

(Q) Applications for remission of penalties under steamboat-inspection law at New York during the past four fiscal years.

STATISTICAL TABLES.

(1) Registered, enrolled, and licensed vessels, by States and customs districts, on June 30, 1904.
(2) Summary of Table 1, by States.
(3) Registered, enrolled, and licensed steam vessels, by States and customs districts, on June 30, 1904.
(4) Registered, enrolled, and licensed iron and steel vessels, by customs districts and States, on June 30, 1904.
(5) Registered, enrolled, and licensed iron and steel steam vessels, by customs districts and States, on June 30, 1904.
(6) Iron and steel sail and steam vessels and barges, by customs districts and States, on June 30, 1904.
(7) Total registered, enrolled, and licensed sail vessels (wood and iron or steel) and steam vessels (wood and iron or steel) on June 30, 1904.
(8) Balance sheet showing increase and decrease of registered, enrolled, and licensed vessels for the fiscal year ended June 30, 1904.
(9) Balance sheet showing class of increase and decrease of all vessels for the fiscal year ended June 30, 1904.
(10) Registered, enrolled, and licensed sail and steam vessels, by years, from 1789.
(10*a*) Documented canal boats and barges, by years, from 1868.
(10*b*) Number and gross tonnage of sail vessels, steam vessels, canal boats, and barges on the northern lakes from 1868.
(11) Sail and steam vessels, canal boats, and barges, by customs districts and States, on June 30, 1904.
(12) Summary of Table 11, by States.
(13) Classification of sail and steam vessels by size, by customs districts and States, on June 30, 1904.
(14) Vessels in cod and mackerel fisheries on June 30, 1904.
(15) Vessels in whale fisheries on June 30, 1904.
(16) Employment of vessels on June 30, 1904.
(17) Vessels in foreign, coasting, and fishing trades, by years, from 1789.
(18) Annual construction: Sail and steam vessels, canal boats, and barges, by customs districts and States, built in year ended June 30, 1904.
(19) Summary of Table 18, by States.
(20) Rig of sailing vessels, by customs districts and States, built in year ended June 30, 1904.
(21) Summary of Table 20.
(22) River, lake, and ocean steamers, by customs districts and States, built in year ended June 30, 1904.
(23) Summary of Table 22.
(24) Canal boats and barges built in year ended June 30, 1904.
(25) Iron and steel vessels (sail, steam, barges) built in year ended June 30, 1904.
(26) Tonnage built annually in New England, on the seaboard, western rivers, and Great Lakes, by years, from 1857.

(27) Comparison of construction for 1903 and 1904.
(28) Sail and steam vessels, canal boats, and barges built, by years, from 1797.
(28a) Iron and steel sail and steam vessels and barges built, by years, from 1834.
(29) Vessels built, captured, admitted to registry by acts of Congress, lost, abandoned, and sold to aliens since 1812.
(30) Yachts documented on June 30, 1904.
(31) Yachts, iron and steel, documented June 30, 1904.
(32) Documented yachts built in year ended June 30, 1904.
(33) Documented iron and steel yachts built in year ended June 30, 1904.
(34) Yachts lost, abandoned, and sold to aliens during year ended June 30, 1904.

REPORT

OF THE

COMMISSIONER-GENERAL OF IMMIGRATION

REPORT

OF THE

COMMISSIONER-GENERAL OF IMMIGRATION.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF IMMIGRATION,
Washington, D. C., June 30, 1904.

SIR: I have the honor to present herewith the report of the Bureau of Immigration for the fiscal year ended June 30, 1904, accompanied by various tabulated statements presenting in a condensed form a view of its operations for the period stated.

It is a matter for special felicitation and encouragement that, although the Bureau and its administrative agents were transferred from the Treasury Department and made a branch of a new Department just organized, the initial year under such new auspices, instead of displaying some of those evidences of embarrassment resulting naturally from the process of adjustment to altered conditions, exhibits only indications of steadily increasing vigor, resourcefulness, and success.

It will be noticed that this year full reports are given herein of but two commissioners of immigration. This course, which somewhat varies from the usual practice, is adopted to avoid unnecessary elaboration, the special points of interest in each of the other reports being made the occasion of appropriate comment herein.

One of these exceptions is the report of the commissioner of immigration at Montreal, Canada, and it is made for the reason that it presents a view of an administration conducted under widely different conditions from those existing at seaports of the United States—one that owes its existence to agreement or contract directly, and only indirectly to legislation. The administrative methods are therefore somewhat different from those in operation at our own ports of entry, such being directly the creatures of the law.

The following tables are inserted for convenience of comparison with former reports, and the contents of each table is sufficiently indicated by the heading over it:

TABLE I.—REPORT OF ALIENS ARRIVED IN THE UNITED STATES, BY PORTS, DURING THE FISCAL YEARS ENDED JUNE 30, 1903 AND 1904.

Port.	1903.			1904.		
	Males.	Females.	Total.	Males.	Females.	Total.
New York, N. Y.	451,404	180,481	631,885	405,097	200,922	606,019
Boston, Mass.	39,598	23,240	62,838	37,327	22,951	60,278
Baltimore, Md.	44,328	11,474	55,802	40,240	15,700	55,940
Philadelphia, Pa.	19,676	8,084	27,760	12,194	7,273	19,467
San Francisco (including Los Angeles district and San Diego)	6,097	1,159	7,256	7,742	1,294	9,036
Bangor, Me	1	.....	1	3	.....	3
Beaufort, S. C.	1	.....	1	.....	.....	.....

TABLE I.—REPORT OF ALIENS ARRIVED IN THE UNITED STATES, ETC.—Continued.

Port.	1903.			1904.		
	Males.	Females.	Total.	Males.	Females.	Total.
Brunswick, Ga.				1		1
Eagle Pass, Tex.				266	74	340
El Paso, Tex.				430	51	481
Fernandina, Fla.	7		7			
Galveston, Tex.	1,268	862	2,130	1,029	743	1,772
Gloucester, Mass.	1	2	3			
Gulfport, Miss. (including Pascagoula and Shieldsboro)	4		4	12		12
Honolulu, H. I.	10,835	3,715	14,550	7,841	1,213	9,054
Jacksonville, Fla.	10	5	15	11	6	17
Ketchikan, Alaska				19	1	20
Key West, Fla.	3,112	1,442	4,554	3,788	1,480	5,268
Miami and Tampa, Fla.	121	87	208	175	108	283
Mobile, Ala.				143	39	182
New Bedford, Mass.	2,133	1,206	3,339	2,236	1,531	3,767
New Orleans, La.	3,755	1,338	5,093	3,576	1,370	4,946
Norfolk, Va. (including Newport News and Old Point Comfort)	8	1	9	408	34	442
Pensacola, Fla.				5		5
Portland, Me.	38	31	69	359	163	522
Portland, Oreg.	378	35	413	336	19	355
Providence, R. I.	193	78	271	42	15	57
San Juan, P. R. (including Ponce)	1,481	639	2,120	1,267	421	1,688
Seattle, Wash. (including Port Townsend and Tacoma)	2,587	210	2,797	2,360	180	2,540
Wilmington, Del.	1		1	1		1
Total, United States	587,037	234,089	821,126	526,908	255,588	782,496
Through Canada via:						
Montreal (including Quebec, Point Levis, St. John, Halifax, and all border stations)	23,346	9,597	32,943	16,780	7,637	24,417
Vancouver (including Victoria)	2,763	214	2,977	5,412	545	5,957
Total, Canada	26,109	9,811	35,920	22,192	8,182	30,374
Grand total	613,146	243,900	857,046	549,100	263,770	812,870

The total arrivals of aliens, 812,870, are thus shown to be less than the corresponding figures for last year by 44,176, a comparatively insignificant diminution. The arrivals through the Canadian and the continental and insular ports of the United States were apportioned as follows:

United States continental ports	771,754
United States insular ports	10,742
Total through United States ports	782,496
Through Canadian ports	30,374
Grand total	812,870

The decrease for the year, of 44,176, was apportioned among the ports as indicated below:

United States continental ports		32,702
United States insular ports:		
Hawaiian	5,496	
Porto Rican	432	
		5,928
Total United States ports		38,630
Total Canadian ports		5,546
Grand total		44,176

The largest ratio of diminution in immigration shows at the port of Philadelphia, amounting to 8,293, or nearly 30 per cent. Some of the

smaller ports, particularly in the Southern States, show marked increases, and some few report arrivals for the first time.

TABLE II.—COMPARATIVE STATEMENT SHOWING THE NUMBER OF ALIENS ARRIVED IN THE UNITED STATES, BY COUNTRIES, DURING THE FISCAL YEARS ENDED JUNE 30, 1903 AND 1904, RESPECTIVELY, SHOWING INCREASE AND DECREASE FOR EACH COUNTRY.

Country.	1903.	1904.	Increase.	Decrease.
Austria-Hungary	206,011	177,156	.....	28,855
Belgium	3,450	3,976	526	.....
Denmark	7,158	8,525	1,367	.....
France, including Corsica	5,578	9,406	3,828	.....
German Empire	40,086	46,380	6,294	.....
Greece	14,090	11,343	.....	2,747
Italy, including Sicily and Sardinia	230,622	193,296	.....	37,326
Netherlands	3,998	4,916	918	.....
Norway	24,461	23,808	.....	653
Portugal, including Cape Verde and Azore Islands	9,317	6,715	.....	2,602
Roumania	9,310	7,087	.....	2,223
Russian Empire and Finland	136,093	145,141	9,048	.....
Servia, Bulgaria, and Montenegro	1,761	1,325	.....	436
Spain, including Canary and Balearic Islands	2,080	*3,996	1,916	.....
Sweden	46,028	27,763	.....	18,265
Switzerland	3,983	5,023	1,040	.....
Turkey in Europe	1,529	4,344	2,815	.....
United Kingdom:				
England	26,219	38,626	12,407	.....
Ireland	35,310	36,142	832	.....
Scotland	6,143	11,092	4,949	.....
Wales	1,275	1,730	455	.....
Europe, not specified	5	143	138	.....
Total Europe	814,507	767,983	.....	46,574
China	2,209	4,309	2,100	.....
Japan	19,968	14,264	.....	5,704
India	94	261	167	.....
Turkey in Asia	7,118	5,235	.....	1,883
Other Asia	577	2,117	1,540	.....
Total Asia	29,966	26,186	.....	3,780
Africa	176	686	510	.....
Australia, Tasmania, and New Zealand	1,150	1,461	311	.....
Philippine Islands	132	52	.....	80
Pacific islands, not specified	67	42	.....	25
British North America	1,058	2,837	1,779	.....
British Honduras	81	109	28	.....
Other Central America	597	605	8	.....
Mexico	525	1,009	481	.....
South America	589	1,667	1,078	.....
West Indies	8,170	10,193	2,023	.....
All other countries	25	90	65	.....
Total	857,046	812,870	.....	44,176
Aliens in transit	64,269	27,844	.....	36,425
Total alien passengers	921,315	840,714	.....	80,601

The striking and significant feature of this table is that the chief diminution in immigration for the year was shown in the arrivals from Austria-Hungary, amounting to 28,855, and from Italy, to 37,326, these two countries aggregating 66,181, or twenty-odd thousand more than the total net decrease for the fiscal year 1904. The countries of north and western Europe, with one notable exception, show increases, Great Britain's increase being 18,643. The one exception to the foregoing statement is shown by the decrease of 18,265 in the arrivals from Sweden.

The only other figures in this table to which attention need be directed are those showing an increase of nearly 100 per cent in the arrivals from China, and a decrease of 5,704 in those from Japan, the latter easily traceable to the pending war in the East.

If to the total arrivals of alien passengers, 812,870, there be added, as should be done, the 27,844 described as "aliens in transit," the total arrivals for the year reach the sum of 840,714, irrespective of those of Canadian and Mexican origin, on account of whom no record is kept.

TABLE III.—REPORT OF ALIENS ARRIVED AND DEBARRED AT THE PORTS OF UNITED STATES AND CANADA, FOR THE YEAR ENDING JUNE 30, 1904.

ARRIVED.

Race or people.	Male.	Female.	Total.	Under 14 years.	14 to 45 years.	45 years and over.	Illiteracy, 14 years and over.		Immigrants bringing—		Total amount of money shown.	Have been in the United States before.
							Can read but can not write.	Can neither read nor write.	$50 or over.	Less than $50.		
African (black)	1,537	849	2,386	306	1,907	173	13	472	260	1,290	80,252	951
Armenian	1,315	430	1,745	238	1,441	66	1	329	162	1,058	40,202	124
Bohemian and Moravian	6,657	5,254	11,911	2,694	8,511	706	8	162	1,307	6,123	337,887	438
Bulgarian, Servian, Montenegrin	4,385	192	4,577	76	4,383	118	4	2,038	131	4,288	70,166	116
Chinese	4,209	118	4,327	90	3,804	433	.....	348	544	2,277	86,900	2,946
Croatian and Slovenian	17,644	3,598	21,242	1,225	19,314	703	50	7,170	686	18,682	321,200	1,540
Cuban	3,346	1,465	4,811	913	3,401	497	8	329	1,129	1,334	184,859	3,406
Dalmatian, Bosnian, Herzegovinian	1,904	132	2,036	47	1,913	76	1	707	161	1,757	46,392	143
Dutch and Flemish	5,191	2,641	7,832	1,693	5,465	674	8	245	1,968	2,747	351,910	1,049
East Indian	241	17	258	18	221	19	.....	76	77	53	12,579	39
English	25,326	16,153	41,479	5,812	29,793	5,874	69	380	17,919	11,231	2,736,182	13,920
Filipino	25	4	29	4	25	.....	.....	3	13	9	2,646	5
Finnish	5,583	4,574	10,157	1,506	8,323	328	157	77	851	7,234	206,309	884
French	6,696	4,861	11,557	1,413	8,935	1,209	6	314	4,471	3,684	773,915	3,274
German	43,775	31,015	74,790	12,868	56,077	5,845	103	2,365	17,349	33,530	3,622,675	10,154
Greek	12,106	519	12,625	605	11,883	137	16	2,821	1,000	10,921	349,875	593
Hebrew	65,040	41,196	106,236	23,529	77,224	5,483	505	18,763	6,088	46,761	1,601,848	2,041
Irish	16,607	20,469	37,076	1,966	33,147	1,963	101	1,078	5,172	24,739	1,092,781	9,542
Italian (north)	28,784	7,915	36,699	3,633	31,529	1,537	17	4,150	4,153	26,320	1,031,249	5,163
Italian (south)	122,770	36,559	159,329	20,895	128,991	9,443	92	74,889	4,412	119,794	2,079,315	14,870
Japanese	12,729	1,653	14,382	190	13,832	360	6	3,065	6,229	6,493	633,568	1,890
Korean	1,723	184	1,907	133	1,756	18	.....	592	77	13	4,447	12
Lithuanian	8,854	3,926	12,780	1,317	11,279	184	682	5,523	328	9,370	122,146	374
Magyar	16,253	7,630	23,883	2,441	20,358	1,084	50	2,517	996	18,495	384,053	2,340
Mexican	354	93	447	41	380	26	4	37	182	78	17,854	185
Pacific Islanders	9	3	12	1	11	.....	.....	5	1	6	265	2
Polish	44,882	22,875	67,757	8,116	57,898	1,743	1,484	19,854	1,670	51,051	781,966	3,636
Portuguese	3,867	2,471	6,338	1,426	4,382	530	12	3,306	473	3,827	102,941	1,020
Roumanian	3,994	370	4,364	93	4,014	257	6	1,348	112	3,981	67,417	199
Russian	3,018	943	3,961	429	3,390	142	44	876	483	2,530	128,456	232
Ruthenian (Russniak)	6,904	2,688	9,592	549	8,781	262	81	5,244	98	8,521	104,274	1,037
Scandinavian	36,024	25,005	61,029	7,709	50,127	3,193	204	159	6,990	40,214	1,485,988	8,832
Scotch	7,023	4,460	11,483	1,923	8,217	1,343	16	40	4,297	3,832	616,297	3,040
Slovak	18,502	9,438	27,940	3,336	23,754	850	167	6,694	782	22,512	431,554	5,316
Spanish	3,960	702	4,662	331	3,878	453	11	414	1,640	2,020	313,758	2,091
Spanish-American	1,141	525	1,666	287	1,142	237	4	53	998	166	151,833	676
Syrian	2,480	1,173	3,653	621	2,902	130	7	1,651	519	1,930	183,707	438
Turkish	1,412	70	1,482	43	1,391	48	.....	572	167	1,209	66,385	76
Welsh	1,173	647	1,820	340	1,306	174	9	34	674	597	93,803	464
West Indian	1,123	819	1,942	232	1,513	197	4	36	879	618	144,853	606
All other peoples	534	134	668	61	557	50	3	167	127	235	29,676	86
Total	549,100	263,770	812,870	109,150	657,155	46,565	3,953	168,903	95,575	501,530	20,894,383	103,750

TABLE III.—REPORT OF ALIENS ARRIVED AND DEBARRED AT THE PORTS OF UNITED STATES AND CANADA, ETC.—Continued.

DEBARRED.

Race or people.	Idiots.	Insane persons.	Paupers, or likely to become public charges.	Loathsome or dangerous contagious diseases.	Convicts.	Anarchists.	Prostitutes.	Persons who procure or attempt to bring in prostitutes.	Assisted immigrants.	Contract laborers.	Returned in one year after landing.	Returned in three years after landing.	Relieved in hospital.
African (black)	....	....	28	1	....	....	3	....	1	4	1	6	34
Armenian	....	....	11	30	....	....	....	....	....	7	....	3	33
Bohemian and Moravian	....	....	22	8	....	....	....	....	....	1	1	3	74
Bulgarian, Servian, Montenegrin	....	....	88	3	....	....	....	....	....	229	1	....	29
Chinese	....	....	263	41	....	....	....	....	....	1	....	1	....
Croatian and Slovenian	1	1	79	25	....	....	....	....	....	37	8	8	110
Cuban	2	....	5	....	....	....	1	....	....	1	1	....	7
Dalmatian, Bosnian, Herzegovinian	....	....	6	2	....	....	....	1	....	....	....	....	15
Dutch and Flemish	....	....	26	6	....	....	....	....	....	8	2	....	31
East Indian	....	....	4	3	....	....	....	....	....	....	....	2	8
English	....	....	192	16	3	....	....	....	....	104	26	26	83
Finnish	....	....	21	48	....	....	....	....	....	10	12	25	123
French	....	2	52	2	1	1	1	....	....	25	9	8	74
German	1	6	270	99	1	....	....	....	....	47	49	80	699
Greek	....	....	429	45	....	....	....	....	....	53	4	17	100
Hebrew	2	2	543	183	....	....	....	....	33	24	31	42	1,016
Irish	1	4	99	13	2	....	....	....	....	14	22	19	166
Italian (north)	1	1	141	35	....	....	....	....	....	83	1	4	163
Italian (south)	3	8	1,396	235	25	....	....	....	3	422	57	72	1,698
Japanese	....	....	158	196	....	....	3	2	1	73	6	36	4
Korean	....	....	3	2	....	....	....	....	....	....	....	....	....
Lithuanian	....	....	50	89	....	....	....	....	....	9	3	4	238
Magyar	3	....	88	29	....	....	....	....	....	9	5	16	199
Mexican	....	1	24	6	....	....	....	....	....	....	....	....	6
Polish	....	2	221	173	....	....	....	....	....	84	13	28	668
Portuguese	....	....	29	2	1	....	....	....	....	3	1	....	17
Roumanian	....	....	23	5	....	....	....	....	....	2	3	4	25
Russian	....	....	18	10	....	....	....	....	....	9	5	2	41
Ruthenian (Russniak)	....	1	89	27	....	....	....	....	....	4	3	4	85
Scandinavian	....	2	100	34	1	....	....	....	....	11	17	37	250
Scotch	2	1	32	3	1	....	....	....	....	9	3	1	31
Slovak	....	1	66	38	....	....	....	....	....	28	12	7	168
Spanish	....	1	35	7	....	....	....	....	....	72	....	2	10
Spanish-American	....	....	7	....	....	....	1	....	....	....	....	....	....
Syrian	....	....	105	115	....	....	....	....	....	80	1	4	155
Turkish	....	....	19	9	....	....	....	....	....	20	1	3	20
Welsh	....	....	7	1	....	....	....	....	....	16	....	9	2
West Indian	....	....	25	3	....	....	....	....	....	2	2	6	26
All other peoples	....	....	24	16	....	....	....	....	....	....	....	....	32
Total	16	33	4,798	1,560	35	1	9	3	38	1,501	300	479	6,440

From the above table it appears that during the year there arrived 812,870 aliens, of whom 549,100 were males and 263,770 were females, an increase in the females as compared with last year of 19,870 and a decrease in males of 64,046. As respects age, 109,150 were under 14 years, 657,155 were between 14 and 45, and 46,565 were 45 or over; 3,953 could read but not write, 168,903 could neither read nor write and, it is presumed, the remainder, 640,014, could both read and write. It also appears that 103,750 of these aliens had already been to this country. That 95,575 brought with them $50 or more each, while 501,530 brought each less than $50. The total amount of money shown to officers by these 812,870 aliens was $20,894,383, or $4,776,870 more than was brought by the 857,046 arrivals of the last year. This fact, taken in connection with the circumstance already referred to as to countries from which the increases of the year under consideration came, furnishes assurance of a marked improvement in the character

and thrift of the more recent immigration. The 28,451 English immigrants brought with them in the fiscal year 1903, $1,405,365; this year the 41,479 of the same race brought $2,736,182; the 35,366 Irish last year had $796,082, while the 37,076 Irish this year showed $1,092,781; 71,782 German immigrants last year had $2,480,634, this year 74,790 possessed in hand $3,622,675.

It is further shown by the above table that there were excluded at the seaports of the United States during the year a total of 7,994 for the causes indicated below.

Cause.	1903.	1904.
Idiots	1	16
Insane	23	33
Paupers	5,812	4,798
Diseased persons	1,773	1,560
Convicts	51	35
Polygamists	1	0
Women for immoral purposes	18	9
Assisted aliens	9	28
Contract laborers	1,086	1,501
Anarchists	0	1
Procurers	0	3
Total	8,769	7,994

It is interesting, as bearing upon the increasing attempts upon the part of contractors in this country, to note that, despite the diminution of immigration, there was an increase of 415 in the number rejected as alien contract laborers. This is a much larger number than has ever before been refused admission to the United States for this cause in any one fiscal year. Later on in this report special attention is given to this subject, particularly in regard to the insufficiency of existing law to stop this evil at its fountain head—the contractors in the United States.

Those aliens who were rejected because they were afflicted with a dangerous or loathsome contagious disease aggregate 1,560, a slight diminution from the corresponding figures for the previous year, but still indicating on the part of the steamship lines a willful disregard of the law, which adds weight to the considerations herein repeated from the last report that the physical examination of aliens be conducted abroad, at the ports of embarkation, by officers of the United States Public Health and Marine-Hospital Service.

The following table is inserted to show the rejections and causes therefor each year since the Bureau was established:

REPORT OF IMMIGRANTS REFUSED ADMISSION AT SEAPORTS, SHOWING ALSO THOSE RETURNED IN ONE YEAR AFTER LANDING, UNDER THE PROVISIONS OF THE ALIEN CONTRACT LABOR LAWS AND THE LAWS REGULATING IMMIGRATION, DURING THE TWELVE YEARS, 1892 TO 1904, INCLUSIVE.

Year.	Immigrants.	Debarred.											Returned in 1 year after landing.	Returned in 3 years after landing.
		Idiots.	Insane persons.	Paupers, or likely to become public charges.	Loathsome or dangerous contagious diseases.	Convicts.	Polygamists.	Anarchists.	Prostitutes.	Persons who procure or attempt to bring in prostitutes.	Assisted immigrants.	Contract laborers.	Total debarred.		
1892	579,663	4	17	1,002	80	26	....	....	80	.....	23	932	2,164	637	....
1893	439,730	3	8	431	81	12	....	....	....	.....	....	518	1,053	577	....
1894	285,631	4	5	802	15	8	....	....	2	.....	....	553	1,389	417	....
1895	258,536	6	.....	1,714	.....	4	....	....	....	.....	1	694	2,419	177	....
1896	343,267	1	10	2,010	2	....	....	....	....	.....	....	776	2,799	238	....
1897	230,832	1	6	1,277	1	1	....	....	....	.....	3	328	1,617	263	....
1898	229,299	1	12	2,261	258	2	....	....	....	.....	79	417	3,030	199	....
1899	311,715	1	19	2,599	348	8	....	....	....	.....	82	741	3,798	263	....
1900	448,572	1	32	2,974	393	4	....	....	7	.....	2	833	4,246	356	....
1901	487,918	6	16	2,798	309	7	....	....	3	.....	50	327	3,516	363	....
1902	648,743	7	27	3,944	709	9	....	....	3	.....	....	275	4,974	465	....
1903	857,046	1	23	5,812	1,773	51	1	....	13	.....	9	1,086	8,769	547	....
1904	812,870	16	33	4,798	1,560	35	....	1	9	3	38	1,501	7,994	300	479
Total	5,933,822	52	208	32,422	5,529	167	1	1	117	3	287	8,981	47,768	4,802	479

From Table III it also appears that there were during the year 779 aliens deported from the United States, 300 under the provisions of the former acts allowing such deportations within one year after landing, and 479 under section 21 of the act of March 3, 1903, extending the limit to three years for the arrest and expulsion of those found unlawfully in the United States. The same table shows also that 6,440 aliens were relieved in hospital during the year. The several races contributing to that number are as follows:

Italians (south)	1,698	Slovaks	168
Hebrews	1,016	Irish	166
Germans	699	Italians (north)	163
Poles	668	Syrians	155
Scandinavians	250	All others	1,020
Lithuanians	238		
Magyars	199	Total	6,440

As showing the principal racial elements of the total immigration, the following figures are taken from Table III:

Italians (south)	159,329	Japanese	14,382
Hebrews	106,236	Lithuanian	12,780
Germans	74,790	Greek	12,625
Polish	67,757	Bohemian and Moravian	11,911
Scandinavians	61,029	Scotch	11,483
English	41,479	French	11,557
Irish	37,076	Finnish	10,157
Italians (north)	36,699	All others	70,515
Slovak	27,940		
Magyar	23,883	Total	812,870
Croatian and Slovenian	21,242		

More than half of the total immigration, or 421,844, was supplied by the Italian, Hebrew, Polish, Slovak, and Magyar races.

TABLE III A.—REPORT OF ALIENS REFUSED ADMISSION, FROM FOREIGN CONTIGUOUS TERRITORY, TO THE UNITED STATES, UNDER THE PROVISIONS OF THE ALIEN CONTRACT LABOR LAWS AND THE LAWS REGULATING IMMIGRATION, FOR THE YEAR ENDING JUNE 30, 1904.

Port.	Debarred.								
	Idiots.	Insane persons.	Paupers, or likely to become public charges.	Loathsome or dangerous contagious diseases.	Convicts.	Women for immoral purposes.	Contract laborers.	Without certificate.	Total debarred.
Belleville, Ontario			5					2	7
Black Rock, N. Y.			14	34		2	5		55
Brockville, Ontario			4					3	7
Cloverdale, British Columbia			1				1	28	30
Cornwall, Ontario			4				1	1	6
Debec Junction, New Brunswick		3	9			2		1	15
Deloraine, Manitoba								25	25
Detroit, Mich.			18	11			11		40
Duluth, Minn			1	6			8		15
Emerson, Manitoba								44	44
Estevan, Northwest Territory			8	2			4		14
Flagstone, British Columbia			12				6	10	28
Fort Covington, N. Y.								2	2
Fort Erie, Ontario			22	31					53
Grand Forks, British Columbia								4	4
Gretna, Manitoba								97	97
Halifax, Nova Scotia				2					2
Huntingdon, Quebec			2					3	5
Huntingdon Junction, British Columbia								2	2
Killarney, Manitoba								1	1
Kingston, Ontario			6				3	8	17
Lacolle, Quebec			1					7	8
Megantic, Quebec			3				1		4
Montreal, Quebec			102	128			38		268
Newport, Vt.			70				4	18	92
Niagara Falls, N. Y			167	130			38	6	341
Northport, Wash			7	1			2		10
North Stratford, N. H			13				16	4	33
Noyan Junction, Quebec							2	13	15
Ogdensburg, N. Y			2					3	5
Pembina, N. Dak								8	8
Port Hope, Ontario		1	5			1		2	9
Port Huron, Mich	2		22		1		40		65
Prescott, Ontario			15					5	20
Rainy River, Ontario								9	9
St. Albans, Vt.			3					2	5
St. John, New Brunswick	1		15	1		2	3		22
St. Johns, Quebec			6						6
St. Stephens, New Brunswick			2				5	8	15
Sault Ste. Marie, Mich			80	198		4	86	4	372
Sumas, Wash							1		1
Swanton, Vt.			1					1	2
Vanceboro, Me			57	4	1		11		73
Warroad, Minn								15	15
Windsor, Ontario	1	2	24	1		2	2		32
Winnipeg, Manitoba			60	29		2	3		94
Yarmouth, Nova Scotia		1	1	4			2		8
Total Canadian border	4	7	762	582	2	15	298	336	2,001
Brownsville, Tex.			13						13
Del Rio, Tex		1	149			2	4		156
Eagle Pass, Tex	9	11	614	25		60	160	15	894
El Paso, Tex		2	3,311	1		16	5		3,335
Laredo, Tex	1	1	320	40			9	1	372
Naco, Ariz.	1		8		1	2			12
Nogales, Ariz.	2	9	46			3	13		73
Total Mexican border	13	24	4,461	66	1	83	191	16	4,855
Total border rejections	17	31	5,223	648	3	98	484	352	6,856

CHART I.

FOR DESCRIPTION SEE PAGE 889

BUREAU OF IMMIGRATION.
F. P. SARGENT, Commissioner-General.

PROPORTION OF ARRIVALS AT SEAPORTS DEBARRED FROM LANDING, & PROPORTION OF LANDED AFTERWARD RETURNED.

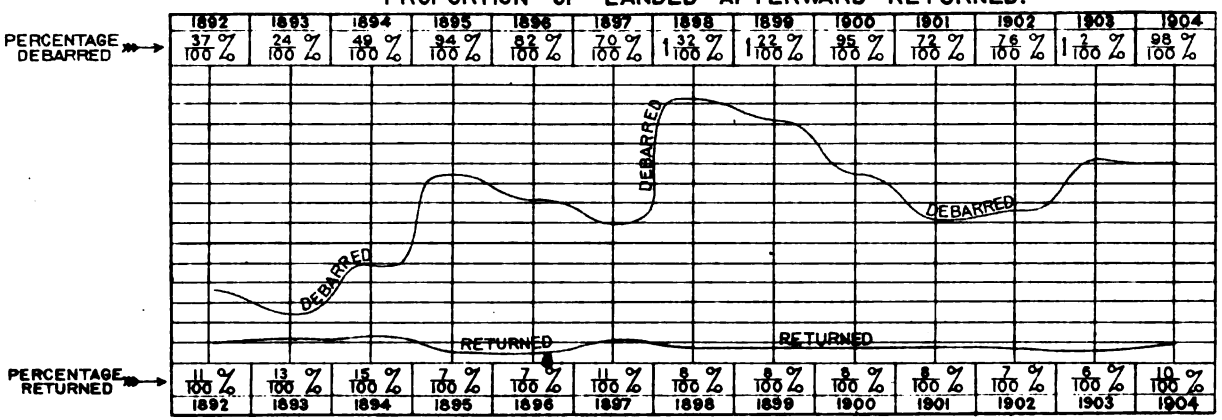


TABLE SHOWING NUMBER DEBARRED AND CAUSES THEREFOR, NUMBER RETURNED AFTER LANDING, AND NUMBER OF ARRIVALS.
(UPON WHICH THE ABOVE DIAGRAM IS BASED.)

DEBARRED CAUSES	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	DEBARRED CAUSES
INSANE	17	8	5		10	6	12	19	32	16	27	23	33	INSANE
PAUPERS	1002	431	802	1714	2010	1277	2261	2599	2974	2798	3944	5812	4798	PAUPERS
DISEASED	80	81	15		2	1	258	348	382	309	709	1773	1560	DISEASED
CONVICTS	26	12	8	4		1	2	8	4	7	9	51	35	CONVICTS
ASSISTED	23			1		3	79	82	2	50		9	38	ASSISTED
PROSTITUTES	80		2						7	3	3	13	9	PROSTITUTES
CONTRACT LABORERS	932	518	553	694	776	328	417	741	833	327	275	1086	1501	CONTRACT LABORERS
ALL OTHER	4	3	4	6	1	1	1	1	1	6	7	2	20	ALL OTHER
TOTAL DEBARRED	2164	1053	1389	2419	2799	1617	3030	3798	4246	3516	4974	8769	7994	TOTAL DEBARRED
RETURNED	637	577	417	177	238	263	199	263	356	363	465	547	779	RETURNED
ARRIVALS	579663	439730	285631	258536	343267	230832	229299	311715	448572	487918	648743	857046	812870	ARRIVALS

JULIUS BIEN & CO. LITH. N.Y.

The total rejections at each of the ports in Canada and along the Canadian boundary shown in the foregoing table will appear to disagree with similar data given in Tables 1 to 7, which appear further on in the report of the commissioner of immigration at Montreal. This disagreement is due to the fact that the figures in the foregoing table represent those aliens who are subjects for the collection of the head tax and do not therefore include Canadians. This is because of the uniform practice, due to circumstances narrated in former reports, of supplying statistical information in regard to such aliens only coming from foreign contiguous countries as are subjects for the head tax. The tables of the commissioner at Montreal, however, embrace all rejections, including those not subjects for the head tax, but who are in other respects within the provisions of the immigration laws.

In regular order are subjoined the various tables, giving statistical information in regard to the total immigration for the fiscal year, as indicated in the headings to those tables, respectively.

It should be borne in mind that neither the information in regard to occupations, nor that giving destinations is conclusive of the facts stated. The destination is taken from the avowed purposes of the aliens upon that point, which, even if true, are subject to change. As respects the occupations given, they merely represent the pursuits followed by the aliens in their own country and are of value in calculating the capabilities of the arrivals, but doubtless these occupations in many instances are abandoned on arrival in the United States and others are pursued.

TABLE IV.—REPORT OF ALIENS ARRIVED IN THE UNITED STATES, BY MONTHS, FOR TWELVE MONTHS ENDING JUNE 30, 1903 AND 1904.

Month.	1903.			1904.		
	Males.	Females.	Total.	Males.	Females.	Total.
July	33,254	17,528	50,782	43,926	23,449	67,375
August	28,770	16,779	45,549	40,958	23,364	64,322
September	34,826	23,402	58,228	46,840	31,490	78,330
October	40,519	23,096	63,614	51,172	30,344	81,516
November	36,654	18,523	55,177	43,917	24,110	68,027
December	34,336	15,955	50,291	28,724	15,672	44,396
January	23,543	8,308	31,851	19,528	9,000	28,528
February	37,620	9,647	47,267	24,307	9,660	33,967
March	75,457	16,209	91,666	62,064	16,171	78,225
April	100,265	26,021	126,286	69,338	21,985	91,323
May	99,840	37,674	137,514	69,592	31,836	101,428
June	68,062	30,759	98,821	48,744	26,689	75,433
Total	613,146	243,900	857,046	549,100	263,770	812,870

TABLE V.—REPORT OF ALIENS ARRIVED AT THE PORTS OF THE UNITED STATES AND CANADA FOR THE YEAR ENDING JUNE 30, 1904, SHOWING THE COUNTRIES WHENCE THEY CAME AND THE RACES OR PEOPLES TO WHICH THEY BELONG.

Country.	African (black).	Armenian.	Bohemian and Moravian.	Bulgarian, Servian, and Montenegrin.	Chinese.	Croatian and Slavonian.	Cuban.	Dalmatian, Bosnian, and Herzegovinian.	Dutch and Flemish.	East Indian.	English.	Filipino.	Finnish.	French.	German.	Greek.	Hebrew.	Irish.	Italian (north).	Italian (south).
Austria-Hungary	.....	3	11,838	2,088	.....	21,105	.....	2,023	9	.....	8	....	.....	17	22,507	7	20,211	2	1,947	88
Belgium	1	5	.....	7	.....	.....	.....	1	2,588	.....	3	....	1	1,284	69	1	4	1	.....	.....
Denmark	2	.....	.....	.....	.....	.....	.....	.....	4	.....	2	....	1	.....	8	.....	1	.....	.....	1
France, including Corsica	5	.....	.....	1	.....	.....	.....	.....	15	.....	16	....	.....	9,193	88	1	32	1	18	5
German Empire	.....	.....	19	2	.....	29	.....	.....	15	.....	10	....	.....	42	40,526	6	669	2	10	1
Greece	.....	2	.....	.....	.....	6	.....	.....	.....	.....	.....	....	.....	3	.....	11,259	10	.....	3	4
Italy, including Sicily and Sardinia	.....	1	1	.....	.....	13	.....	1	1	.....	14	....	1	24	13	2	6	.....	34,056	159,127
Netherlands	4	.....	.....	.....	.....	.....	.....	.....	4,822	.....	3	....	1	9	37	.....	25	.....	.....	.....
Norway	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	7	....	12	.....	18	.....	1	.....	.....	.....
Portugal, including Cape Verde and Azore Islands	439	1	.....	.....	1	.....	.....	.....	1	.....	5	....	.....	2	8	.....	5	1	.....	.....
Roumania	.....	.....	1	11	.....	7	.....	.....	.....	.....	1	....	.....	1	159	5	6,446	.....	.....	.....
Russian Empire and Finland	.....	17	42	3	.....	31	.....	.....	.....	4	4	....	10,077	3	7,128	3	77,544	1	.....	.....
Servia, Bulgaria, and Montenegro	.....	3	.....	1,211	.....	7	.....	4	2	.....	.....	....	.....	8	18	.....	31	.....	.....	.....
Spain, including Canary and Balearic Islands	4	4	.....	1	.....	.....	18	1	.....	.....	10	....	.....	10	2	.....	6	.....	2	4
Sweden	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8	....	51	1	16	.....	21	.....	.....	.....
Switzerland	.....	.....	.....	.....	.....	2	.....	.....	27	.....	4	....	.....	699	3,662	1	12	2	590	15
Turkey in Europe	.....	96	.....	1,228	.....	41	.....	1	.....	.....	.....	....	.....	2	6	1,246	169	.....	2	.....
United Kingdom	45	13	2	.....	.....	.....	.....	.....	24	12	36,486	....	4	29	110	4	817	36,747	12	10
Not specified	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	....	.....	8	86	.....	.....	.....	.....	2
Total Europe	500	145	11,903	4,552	3	21,241	18	2,031	7,509	16	36,581	....	10,148	11,335	74,406	12,535	106,010	36,757	36,640	159,207
China	.....	.....	.....	.....	4,272	.....	.....	.....	.....	8	7	....	.....	1	3	.....	1	.....	.....	.....
Japan	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	16	1	.....	1	1	.....	10	1	.....	.....
India	.....	.....	.....	1	.....	.....	.....	.....	.....	224	14	....	.....	.....	2	.....	1	.....	.....	.....
Turkey in Asia	.....	1,578	1	22	.....	1	.....	.....	.....	.....	.....	....	.....	2	5	60	144	.....	.....	.....
Other Asia	.....	19	1	1	1	.....	.....	.....	.....	6	6	....	.....	.....	.....	2	8	.....	.....	.....
Total Asia	.....	1,597	2	24	4,274	1	.....	.....	.....	238	43	1	.....	4	11	62	164	1	.....	.....

Country.	Japanese.	Korean.	Lithuanian.	Magyar.	Mexican.	Pacific Islander.	Polish.	Portuguese.	Roumanian.	Russian.	Ruthenian, or Russniak.	Scandinavian (Norwegians, Danes, and Swedes).	Scotch.	Slovak.	Spanish.	Spanish-American.	Syrian.	Turkish.	Welsh.	West Indian.	All other peoples.	Total aliens.
Africa	91								289		145			6	32	4	19	19				
Australia, Tasmania, and New Zealand		1		1				5	1		1,122			4	60	1	10	122	9	1		
Philippine Islands										1	2	28		1	1							
Pacific Islands, not specified									1		19			5	7							
British North America	5		3		13		1		1		2,357		6	48	18			8	156	10		
British Honduras	1						2		1		41				7							
Other Central America	2				8		3		6		58			24	55			5		3	8	
Mexico			2		3		1		6		123		2	50	94	4		2	4	1	26	
South America	25	2			8		2		21	1	60		1	32	63	18		9	5	28	73	
West Indies	1,762		1		23		4,783		47	2	933			48	36			9	11	8	14	
All other countries							1									1			1			
Grand total	2,386	1,745	11,911	4,577	4,327	21,242	4,811	2,036	7,832	258	41,479	29	10,157	11,557	74,790	12,625	106,286	37,076	36,699	159,329		
Austria-Hungary			40	23,851			30,243	4	3,851	25	9,415	3	3	27,895				6	1	16	177,156	
Belgium												5					2		2	2	3,976	
Denmark												8,450	10			1			45		8,525	
France, including Corsica		1					1						1		24	1	6	2		13	32	9,406
German Empire			26	8			4,931		1	6	3	74	1	18	1	2		1		12	46,380	
Greece							2		1			2					5	45		1	11,343	
Italy, including Sicily and Sardinia				1				1	1			1	1		2	3		1		25	198,296	
Netherlands							1					2				1			8	3	4,916	
Norway												23,768	1								23,808	
Portugal, including Cape Verde and Azore Islands								6,242				1			1	5				3	6,715	
Roumania			1	12			3		426					1				11			2	7,087
Russian Empire and Finland			12,707	5			32,577	1	3	3,907	173	871	1	25				1		13	145,141	
Servia, Bulgaria, and Montenegro							6		1			1		2		1	4	6			25	1,825
Spain, including Canary and Balearic Islands												3	1		3,850	59	5			11	5	3,996
Sweden										1		27,660	5									27,763
Switzerland								1	1			5			1						1	5,023
Turkey in Europe								1	73	2	1				8	1	116	1,216			135	4,344
United Kingdom		4	6	2		1	8	13		3		41	11,226	1	18	9		2	1,806	121	12	87,590
Not specified												42									3	143
Total Europe		5	12,780	23,879		1	67,742	6,263	4,358	3,944	9,592	60,929	11,250	27,987	3,905	83	138	1,291	1,810	202	287	767,933

TABLE V.—REPORT OF ALIENS ARRIVED AT THE PORTS OF THE UNITED STATES AND CANADA FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Country.	Japanese.	Korean.	Lithuanian.	Magyar.	Mexican.	Pacific Islander.	Polish.	Portuguese.	Roumanian.	Russian.	Ruthenian, or Russniak.	Scandinavian (Norwegians, Danes, and Swedes).	Scotch.	Slovak.	Spanish.	Spanish-American.	Syrian.	Turkish.	Welsh.	West Indian.	All other peoples.	Total aliens.
China	5	3										2	4		1		1				1	4,309
Japan	14,226	2										1					1	1			2	14,264
India								1		3			1		1						13	261
Turkey in Asia									4						3	1	3,116	174			124	5,235
Other Asia	6	1,901															89	6			71	2,117
Total Asia	14,237	1,906						1	4	3		3	5		5	1	3,207	181			211	26,186
Africa				1				2	2	2		1	25		3		21	3	1	6	64	686
Australia, Tasmania, and New Zealand	2							3				12	86		9		3		6		3	1,461
Philippine Islands	5					5							1		8							52
Pacific Islands, not specified						6							3								1	42
British North America	113									1		11	74	1	3				1	2	5	2,837
British Honduras					1								5		13	33				1	4	109
Other Central America												6	1		63	347	13	1		6	1	605
Mexico	14	1		3	440			1		2		8	11		116	33	53	3	1		5	1,009
South America					5		15	49		7		8	3	2	148	1,031	23	1	1	28	3	1,667
West Indies	6				1			19		2		46	19		389	137	194	2		1,697	4	10,193
All other countries												5				1	1				80	90
Grand total	14,382	1,907	12,780	23,883	447	12	67,757	6,338	4,364	3,961	9,592	61,029	11,483	27,940	4,662	1,606	3,653	1,482	1,820	1,942	668	812,870

See Chart 2.

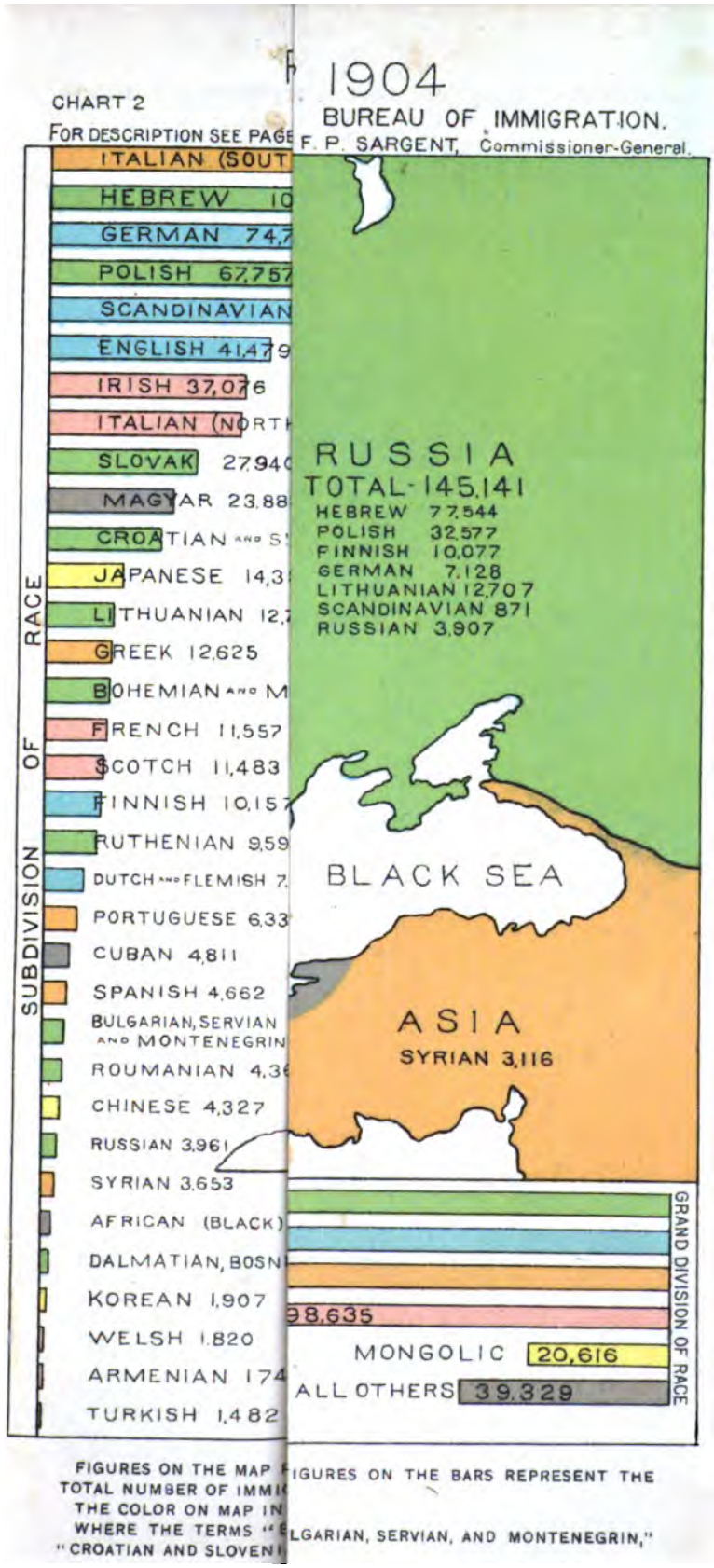

1904
CHART 2
BUREAU OF IMMIGRATION.
FOR DESCRIPTION SEE PAGE
F. P. SARGENT, Commissioner-General.
ITALIAN (SOUT
HEBREW 10
GERMAN 74,7
POLISH 67,757
SCANDINAVIAN
ENGLISH 41,479
IRISH 37,076
ITALIAN (NORTH
SLOVAK 27,940
MAGYAR 23,88
CROATIAN AND S
JAPANESE 14,3
LITHUANIAN 12,7
GREEK 12,625
BOHEMIAN AND M
FRENCH 11,557
SCOTCH 11,483
FINNISH 10,157
RUTHENIAN 9,59
DUTCH AND FLEMISH 7,
PORTUGUESE 6,33
CUBAN 4,811
SPANISH 4,662
BULGARIAN, SERVIAN AND MONTENEGRIN
ROUMANIAN 4,36
CHINESE 4,327
RUSSIAN 3,961
SYRIAN 3,653
AFRICAN (BLACK)
DALMATIAN, BOSN
KOREAN 1,907
WELSH 1,820
ARMENIAN 174
TURKISH 1,482
SUBDIVISION OF RACE
RUSSIA
TOTAL-145,141
HEBREW 77,544
POLISH 32,577
FINNISH 10,077
GERMAN 7,128
LITHUANIAN 12,707
SCANDINAVIAN 871
RUSSIAN 3,907
BLACK SEA
ASIA
SYRIAN 3,116
98,635
MONGOLIC 20,616
ALL OTHERS 39,329
GRAND DIVISION OF RACE
FIGURES ON THE MAP
TOTAL NUMBER OF IMMI
THE COLOR ON MAP IN
WHERE THE TERMS "
"CROATIAN AND SLOVEN
FIGURES ON THE BARS REPRESENT THE
LGARIAN, SERVIAN, AND MONTENEGRIN,"

TABLE VI.—REPORT OF ALIENS ARRIVED AT THE PORTS OF THE UNITED STATES AND CANADA DURING THE YEAR ENDING JUNE 30, 1904.

Country.	Sex and number of aliens arrived.			Aliens in transit.	Grand total.
	Males.	Females.	Total.		
Austria-Hungary	118,121	59,035	177,156	1,743	178,899
Belgium	2,589	1,387	3,976	239	4,215
Denmark	5,503	3,022	8,525	98	8,623
France, including Corsica	5,401	4,005	9,406	1,594	11,000
German Empire	26,366	20,014	46,380	1,270	47,650
Greece	10,860	483	11,343	182	11,525
Italy, including Sicily and Sardinia	149,363	43,933	193,296	5,188	198,484
Netherlands	3,181	1,735	4,916	72	4,988
Norway	15,184	8,624	23,808	256	24,064
Portugal, including Cape Verde and Azore Islands	4,182	2,533	6,715	19	6,734
Roumania	3,623	3,464	7,087	36	7,123
Russian Empire and Finland	95,108	50,033	145,141	1,271	146,412
Servia, Bulgaria, and Montenegro	1,234	91	1,325	4	1,329
Spain, including Canary and Balearic Islands	3,399	597	3,996	813	4,809
Sweden	14,813	12,950	27,763	193	27,956
Switzerland	3,303	1,720	5,023	163	5,186
Turkey in Europe	4,157	187	4,344	164	4,508
United Kingdom:					
England	23,483	15,143	38,626	5,683	44,309
Ireland	16,127	20,015	36,142	423	36,565
Scotland	6,758	4,334	11,092	986	12,078
Wales	1,139	591	1,730	62	1,792
Europe not specified	78	65	143	1	144
Total Europe	513,967	253,966	767,933	20,460	788,393
China	4,198	111	4,309	2,010	6,319
Japan	12,613	1,651	14,264	248	14,510
India	243	18	261	19	288
Turkey in Asia	3,799	1,436	5,235	273	5,502
Other Asia	1,891	226	2,117	30	2,147
Total Asia	22,744	3,442	26,186	2,580	28,766
Africa	609	77	686	37	723
Australia, Tasmania, and New Zealand	966	495	1,461	505	1,966
Philippine Islands	46	6	52	6	58
Pacific islands, not specified	22	20	42	7	49
British North America	1,677	1,160	2,837	2,505	5,342
British Honduras	73	36	109	29	138
Other Central America	406	199	605	154	759
Mexico	801	208	1,009	442	1,451
South America	1,190	477	1,667	382	2,049
West Indies	6,546	3,647	10,193	701	10,894
All other countries	53	37	90	36	126
Grand total	549,100	263,770	812,870	27,844	840,714

TABLE VII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, SHOWING THEIR DESTINATIONS BY RACES OR PEOPLES.

Race or people.	Alabama.	Alaska.	Arizona.	Arkansas.	California.	Colorado.	Connecticut.	Delaware.	District of Columbia.	Florida.	Georgia.	Hawaii.	Idaho.	Illinois.	Indiana.	Indian Territory.	Iowa.	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.	Missouri.	Montana.	Nebraska.	Nevada.
African (black)	16	...	...	1	35	...	25	...	9	955	1	...	...	7	...	...	1	...	5	2	1	8	429	2	1	5	55	...	1	...
Armenian	...	...	...	...	35	...	55	...	1	...	...	...	...	51	1	...	1	...	...	...	27	...	559	10	3	...	28	...	...	...
Bohemian and Moravian	...	4	...	39	28	80	41	13	1	6	1	...	4	3,196	28	9	842	100	1	1	...	292	58	150	239	2	382	7	760	...
Bulgarian, Servian, and Montenegrin	...	16	34	...	131	39	18	1	2	...	3	...	2	486	124	...	1	11	...	2	7	27	81	69	37	5	146	28	...	8
Chinese	...	...	3	...	2,447	2	6	...	55	1	1	415	5	28	...	...	2	...	...	66	2	20	119	...	10	3	81	17	...	...
Croatian and Slovenian	6	2	28	115	412	366	36	...	17	1	1	6	3	2,784	142	3	145	265	18	23	8	48	21	519	412	14	898	165	50	32
Cuban	31	...	...	...	6	1	5	...	18	2,991	3	...	1	3	2	...	...	...	3	81	...	45	26	5	...	5	71	...	4	...
Dalmatian, Bosnian, and Herzegovinian	...	8	18	...	367	66	3	...	...	...	...	...	1	158	4	...	1	1	...	42	...	1	4	1	14	5	33	52	...	7
Dutch and Flemish	17	1	...	1	101	80	19	1	8	8	5	5	3	1,155	200	1	377	47	6	40	3	20	398	1,592	145	10	462	26	53	...
East Indian	...	...	...	...	19	...	1	...	1	...	1	...	...	2	4	...	...	1	...	6	1	...	8	1	...	...	93	1	...	...
English	88	17	154	21	2,960	333	694	27	139	847	47	109	59	1,991	249	10	272	208	77	224	305	261	5,935	1,268	337	21	890	185	150	19
Filipino	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	9	...	1	...
Finnish	2	10	7	1	278	58	67	...	3	18	2	...	12	256	29	...	4	4	...	7	85	8	1,499	2,334	1,457	4	14	184	6	4
French	107	9	20	15	1,139	57	182	4	85	42	4	6	5	566	178	12	70	311	8	325	15	48	489	85	38	3	602	23	19	41
German	58	2	29	86	1,709	488	1,034	55	180	118	47	26	62	7,261	671	6	1,369	919	179	146	25	1,209	1,115	2,093	1,553	16	8,843	186	1,079	19
Greek	58	...	1	19	142	62	135	8	87	34	89	...	5	2,879	65	1	45	18	1	15	59	52	2,119	98	17	2	774	...	13	...
Hebrew	53	1	2	14	311	145	1,601	51	149	16	129	...	5	4,538	124	...	156	84	95	106	169	1,976	6,229	407	672	22	1,358	10	144	...
Irish	12	6	25	4	966	127	1,412	76	107	14	18	2	3	1,933	134	2	124	90	45	28	241	164	7,612	188	151	6	542	144	82	11
Italian (north)	109	4	108	77	5,803	656	1,329	72	91	26	21	2	27	2,799	341	213	259	356	9	73	59	78	2,151	801	188	258	823	162	50	343
Italian (south)	194	...	14	18	1,020	814	4,704	428	252	562	11	...	23	5,184	190	71	175	86	27	8,544	250	617	10,900	943	253	103	1,027	40	100	21
Japanese	...	16	4	...	4,003	...	4	...	10	...	...	6,590	6	47	1	...	...	2	...	2	1	3	84	6	1	...	618	10	3	...
Korean	...	...	...	...	8	...	...	...	...	...	...	1,884	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lithuanian	...	2	3	1	6	2	695	17	2	...	...	...	...	1,914	86	21	14	...	1	...	84	210	1,604	148	8	...	88	...	5	...
Magyar	13	...	2	2	17	12	869	6	6	3	1	...	1	880	421	6	9	4	4	3	5	83	98	214	78	2	210	6	9	...
Mexican	7	...	...	...	134	...	...	...	4	7	...	...	...	...	2	...	...	...	...	3	...	6	4	...	...	1	8	...	...	...
Pacific Islander	...	...	...	...	8	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Polish	13	2	...	13	45	16	2,690	356	8	2	1	...	...	8,244	410	17	31	47	8	19	71	960	5,823	2,124	366	6	385	8	139	...
Portuguese	1	...	...	...	1,028	...	109	1	4	8	...	12	8	84	...	...	...	...	...	7	2	1	3,920	1	...	...	23	1	...	38
Roumanian	...	...	...	...	3	...	35	...	1	...	...	...	...	127	308	...	14	...	...	...	...	20	17	82	6	...	73	1	5	...
Russian	1	4	1	1	98	...	129	9	9	2	1	2	...	258	7	8	7	...	8	5	6	150	852	41	12	...	62	1	8	...
Ruthenian (Russniak)	6	...	...	4	10	6	255	25	1	...	...	...	1	199	9	4	3	6	...	1	1	56	156	40	20	...	43	...	1	...
Scandinavian (Norwegians, Danes, and Swedes)	126	20	85	7	1,416	485	1,237	28	38	43	12	7	180	7,752	177	2	2,465	389	10	106	229	141	8,978	1,929	10,078	21	406	448	1,157	58

Race or people.	New Hampshire.	New Jersey.	New Mexico.	New York.	North Carolina.	North Dakota.	Ohio.	Oklahoma.	Oregon.	Pennsylvania.	Porto Rico.	Rhode Island.	South Carolina.	South Dakota.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	Wyoming.	Tourists.	Philippine Islands.	Total.
Scotch	66	11	11	40	464	113	216	6	17	20	18	37	15	676	136	32	104	67	30	24	111	165	1,420	207	161	5	205	106	27	5
Slovak	51		2	10	40	55	709	5	3	1				1,800	210	7	54	22	4	7	20	99	198	119	136	1	193	33	5	1
Spanish	16		22		395	7	8		21	967	3		75	18	5	1		1		131	5	7	71	1			155	1		124
Spanish-American	9		1		202	1	1		70	7	2			10	11		4		1	99	1	5	18	2	4		154			1
Syrian	9		21	3	6	9	127		10	9	20			104	93	1	10	8	22	67	68	8	474	83	14	18	95	1	9	
Turkish	2				17	2	27	2				1		38	51					4	29	8	231	30	3	1	68			
Welsh	4			1	49	37	17	1	3	1	5	1		96	41		36	9	1	1	4	20	39	21	12	1	25	9	15	1
West Indian	19				28	1	20	1	8	14	2			5				2		20		24	159		2		4			
All other peoples	2				44		11		6	1				33	3					6	7	7	68	6	2		106	1		1
Grand total	1,096	135	545	488	25,934	3,970	18,526	1,193	1,376	6,209	449	9,108	451	57,457	4,402	422	6,096	2,958	558	5,236	1,901	6,847	58,411	15,570	16,425	540	14,897	1,751	3,895	729

Race or people.	New Hampshire.	New Jersey.	New Mexico.	New York.	North Carolina.	North Dakota.	Ohio.	Oklahoma.	Oregon.	Pennsylvania.	Porto Rico.	Rhode Island.	South Carolina.	South Dakota.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	Wyoming.	Tourists.	Philippine Islands.	Total.
African (black)		64		561	2		1			36	62	89				1			4	1				6		2,886
Armenian	21	107		597			8		1	63		171				7			3					1		1,745
Bohemian and Moravian		187	6	1,843		86	1,877	44	1	989	2	3		81	1	468	2	1	23	41	78	443	2	4		11,911
Bulgarian, Servian, and Montenegrin	15	34	28	513	3	1	607			1,953		2		3		14	1		4	38	61	10	17			4,577
Chinese		13		491			2		67	60		12			1	1	4	1	6	881		2	1	2		4,327
Croatian and Slovenian		312	92	1,807	3	16	2,499		12	8,683		3		19	65	23	98	2	18	257	375	400	72	1		21,242
Cuban	1	31		1,253	12		2	1		94	96	6			3	2		3	5			1				4,811
Dalmatian, Bosnian, and Herzegovinian		150		693			66		42	102	1		1	24		16	3	5	3	120	27		2			2,036
Dutch and Flemish	3	596	4	1,397		23	111	7	34	202	10	50		94	3	58	85	1	11	75	6	305	1	22		7,832
East Indian		12		82			2		1	9			2							8				3		258
English	216	1,465	29	11,331	31	157	1,152	19	135	4,988	32	1,215	12	98	47	307	393	69	147	558	221	222	64	1,172	2	41,479
Filipino			1	5												1				1			4		2	29
Finnish	85	156	9	1,474		66	389	8	250	374		26	1	87	3	9	58	18	5	374		356	114	2		10,157
French	12	202	8	4,432	1	19	205	12	21	1,419	112	170	4	20	4	106	16	8	11	140	20	42	12	53		11,557
German	58	4,528	21	20,235	13	1,704	5,273	137	410	10,424	25	162	20	892	36	612	290	22	113	672	237	3,220	54	104		74,790
Greek	298	133		3,579	15		239	4	20	906		78	8		45	21	70	13	56	47	47	294	2	2		12,625
Hebrew	47	3,445	4	68,693	7	44	2,053	7	62	11,691	2	487	4	18	87	158	22	39	119	73	41	611	1	4		106,236
Irish	265	2,226	2	13,005	2	58	629	4	46	5,191	1	833	4	24	30	59	61	55	31	108	26	73	26	48		87,076
Italian (north)	59	1,062	69	8,905		7	643	1	87	6,574	14	189	1	51	142	170	287	234	72	349	223	165	100	12		36,699
Italian (south)	59	10,534	9	76,124	1	5	4,510		48	30,234	72	2,535	10	9	42	288	81	247	82	243	2,110	512	49	9		159,329
Japanese	1	5	4	247		1	8		318	16	1				2	50	8		2	2,446		4	4	4		14,382
Korean				9	1				1							2				2						1,907
Lithuanian	87	615		1,592		24	242			5,046		29		6				20	13	23	132	139	1			12,780
Magyar	5	3,486	1	4,781	1	33	3,810	1	9	8,125	1	3		8		9		46	104	17	427	90	12			23,883
Mexican		2		250			3			5	4				1	4								2		447
Pacific Islander										1																12
Polish	338	6,273		13,185	2	104	2,474	9	6	20,770	2	517		11	10	36		855	32	86	502	1,211	30			67,757
Portuguese	3	3		276	1		4		6	12		769						10	1	2		3		10		6,338

TABLE VII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Race or people.	New Hampshire.	New Jersey.	New Mexico.	New York.	North Carolina.	North Dakota.	Ohio.	Oklahoma.	Oregon.	Pennsylvania.	Porto Rico.	Rhode Island.	South Carolina.	South Dakota.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	Wyoming.	Tourists.	Philippine Islands.	Total.
Roumanian	2	40	....	294	....	8	2,149	....	....	1,161	....	3	....	....	....	2	1	11	1	1	53	....	....	1	....	4,364
Russian	29	209	1	1,281	1	78	77	....	10	907	....	18	....	21	....	11	....	14	8	34	45	43	....	2	....	3,961
Ruthenian (Russniak)	24	1,094	....	1,653	....	48	405	....	....	5,336	....	50	....	....	....	16	....	44	2	8	42	17	6	....	....	9,592
Scandinavian (Norwegians, Danes, and Swedes)	176	1,472	36	10,928	2	2,991	429	29	468	2,150	7	436	6	1,590	20	134	412	101	53	2,248	10	4,377	110	19	....	61,029
Scotch	84	551	4	2,559	7	63	357	2	75	2,156	2	174	4	20	44	78	43	178	40	204	124	53	69	132	....	11,483
Slovak	2	2,591	3	3,480	....	16	2,244	....	1	14,925	2	7	1	3	1	42	2	42	74	31	358	320	8	2	....	27,940
Spanish	....	15	9	1,620	....	....	14	2	5	67	710	2	....	....	1	77	2	68	2	10	....	....	1	23	....	4,662
Spanish-American	....	13	4	806	....	....	7	....	7	47	143	....	....	....	7	7	....	....	....	5	....	7	....	10	....	1,666
Syrian	22	64	2	1,238	5	5	229	3	2	449	44	92	14	9	1	41	1	4	39	8	64	28	....	....	....	3,653
Turkish	32	9	....	274	....	....	187	....	....	396	11	32	....	....	....	2	....	....	3	2	15	3	2	....	....	1,482
Welsh	....	29	1	285	....	5	146	....	6	770	....	2	3	1	....	14	8	43	7	14	5	24	....	7	....	1,820
West Indian	1	38	....	1,137	1	....	2	....	1	94	331	18	....	1	1	....	....	....	....	....	....	1	1	11	....	1,942
All other peoples	10	14	....	285	1	....	22	....	....	58	8	1	....	....	....	1	....	....	....	7	2	....	....	10	....	668
Grand total	1,905	41,780	847	268,150	112	5,562	33,077	280	2,152	146,478	1,695	8,179	95	8,090	597	2,797	1,948	1,649	1,089	8,634	5,251	12,976	765	1,678	4	812,870

TABLE VIII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, SHOWING THEIR OCCUPATIONS BY RACES OR PEOPLES.

Race or people.	Actors.	Architects.	Clergy.	Editors.	Electricians.	Engineers (professional).	Lawyers.	Literary and scientific persons.	Musicians.	Officials (government).	Physicians.	Sculptors and artists.	Teachers.	Other professional.	Total professional.	Bakers.	Barbers and hairdressers.	Blacksmiths.	Bookbinders.	Brewers.
African (black)	20	.....	13	.....	2	2	.....	1	1	3	3	.....	25	.....	70	4	10	10	.....	.....
Armenian	3	3	2	3	.....	.....	.....	3	1	.....	5	1	15	.....	36	30	34	18	2	.....
Bohemian and Moravian	2	7	6	5	1	14	.....	6	53	1	2	15	8	.....	120	124	22	160	4	28
Bulgarian, Servian, and Montenegrin	.....	.....	.....	.....	1	1	1	3	.....	3	3	.....	3	.....	15	7	3	10	.....	.....
Chinese	2	.....	2	.....	.....	.....	.....	2	.....	30	5	.....	10	3	54	1	.....	.....	.....	.....
Croatian and Slovenian	.....	1	.....	.....	.....	4	1	.....	4	1	.....	1	7	1	20	29	6	44	2	3
Cuban	48	1	2	10	2	16	33	2	4	31	50	6	19	1	225	12	19	.....	.....	.....
Dalmatian, Bosnian, and Herzegovinian	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	2	1	.....	5	3	3	2	.....	.....
Dutch and Flemish	10	20	48	12	7	43	8	10	22	26	16	17	23	5	267	88	15	26	1	8
East Indian	93	.....	2	1	.....	2	1	1	.....	5	2	8	2	12	129	.....	.....	.....	.....	.....
English	435	104	234	132	79	662	128	126	123	243	172	126	318	28	2,910	145	61	185	23	17
Finnish	.....	6	8	1	1	14	3	2	4	1	6	4	7	.....	57	14	2	15	.....	1
French	80	45	111	21	14	155	18	33	26	54	30	105	322	9	1,023	71	25	30	3	.....
German	78	164	147	58	77	471	51	130	351	163	145	237	396	64	2,532	1,063	338	536	67	243
Greek	9	.....	5	6	4	5	3	8	12	2	7	9	18	1	89	149	36	68	2	3
Hebrew	28	27	51	13	48	50	6	32	260	4	70	36	211	7	848	1,173	408	826	535	19
Irish	37	6	142	18	17	55	21	10	25	22	21	14	180	2	570	63	19	136	10	8
Italian (north)	61	10	43	11	12	27	7	9	69	43	43	111	38	3	492	236	52	181	4	.....
Italian (south)	12	11	61	7	34	33	18	11	281	44	80	75	45	4	716	637	2,097	784	11	.....
Japanese	56	3	44	28	3	14	3	5	1	99	41	25	49	.....	373	112	22	11	.....	2
Korean	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	4	.....	.....	.....	.....	.....
Lithuanian	.....	3	1	1	.....	1	.....	2	6	.....	.....	1	1	.....	16	14	2	33	.....	1
Magyar	6	13	29	9	4	31	11	7	22	14	17	36	13	2	214	43	40	155	7	2
Mexican	3	1	.....	.....	.....	3	6	.....	1	18	5	1	.....	.....	33	.....	.....	2	.....	.....
Polish	2	7	30	5	3	14	3	7	35	3	3	5	18	1	136	148	21	270	23	2
Portuguese	.....	.....	5	2	.....	6	2	.....	1	6	4	3	2	.....	31	3	9	5	1	.....
Roumanian	4	.....	.....	3	2	6	1	2	1	1	1	2	.....	.....	23	8	4	21	2	.....
Russian	8	3	12	5	4	27	1	5	14	15	8	9	7	1	119	13	8	22	4	.....
Ruthenian (Russniak)	.....	.....	6	1	.....	.....	.....	.....	1	.....	.....	.....	1	.....	9	3	1	18	.....	.....
Scandinavian (Norwegians, Danes, and Swedes)	22	31	49	32	63	269	19	25	44	61	37	27	98	7	784	250	51	496	32	17
Scotch	22	33	29	8	9	229	31	18	11	20	35	12	66	13	536	80	19	96	5	.....
Slovak	.....	1	1	.....	.....	.....	.....	1	8	1	1	1	6	.....	20	17	2	80	5	2
Spanish	51	.....	50	5	2	22	11	5	11	41	16	26	12	.....	252	27	11	10	1	.....
Spanish-American	4	2	8	4	4	30	31	2	2	38	49	10	7	.....	191	1	2	.....	.....	.....

TABLE VIII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Race or people.	Actors.	Architects.	Clergy.	Editors.	Electricians.	Engineers (professional).	Lawyers.	Literary and scientific persons.	Musicians.	Officials (government).	Physicians.	Sculptors and artists.	Teachers.	Other professional.	Total professional.	Bakers.	Barbers and hairdressers.	Blacksmiths.	Bookbinders.	Brewers.
Syrian	2	.....	10	1	1	.....	.....	3	1	.....	3	.....	7	.....	28	14	16	33	1	.....
Turkish	6	.....	3	2	.....	1	.....	2	.....	3	1	4	3	.....	25	8	6	.....	.....	.....
Welsh	1	3	22	2	2	13	.....	4	10	4	1	.....	15	.....	77	4	3	10	.....	.....
West Indian	4	1	17	3	1	3	29	2	1	19	11	1	29	.....	121	5	3	9	2	.....
All other peoples	56	.....	.....	.....	1	3	1	.....	13	16	8	2	.....	.....	100	.....	1	1	.....	.....
Grand total	1,169	507	1,193	410	398	2,226	448	479	1,419	1,030	907	982	1,983	164	13,265	4,599	3,866	4,308	747	856

Race or people.	Butchers.	Cabinetmakers.	Carpenters and joiners.	Clerks and accountants.	Dressmakers.	Engineers (stationary) and firemen.	Engravers.	Furriers and fur workers.	Gardeners.	Hat and cap makers.	Iron workers.	Jewelers.	Locksmiths.	Machinists.	Mariners.	Masons.	Mechanics (not specified).	Metal workers (other than iron, steel, and tin).	Millers.	Milliners.
African (black)	8	1	61	42	33	18	.....	.....	.....	1	1	1	.....	2	216	8	1	2	.....	.....
Armenian	6	5	65	22	6	8	.....	.....	6	1	12	10	2	8	3	8	4	8	2	1
Bohemian and Moravian	249	10	314	113	16	26	1	6	25	10	145	1	247	30	10	176	16	15	47	.....
Bulgarian, Servian, and Montenegrin	6	1	19	14	.....	3	1	.....	9	1	1	.....	8	1	20	9	2	.....	1	.....
Chinese	1	.....	.....	12	.....	2	.....	.....	9	.....	1	.....	.....	1	1	.....	.....	.....	.....	.....
Croatian and Slovenian	36	3	97	46	12	22	.....	.....	7	6	12	1	44	11	358	120	4	.....	18	.....
Cuban	7	.....	18	214	.....	3	.....	.....	.....	.....	4	1	.....	8	10	2	21	1	.....	.....
Dalmatian, Bosnian, and Herzegovinian	3	1	13	12	2	12	.....	.....	.....	.....	.....	.....	1	.....	368	11	1	.....	1	.....
Dutch and Flemish	72	4	126	137	27	47	3	.....	84	.....	27	7	4	20	78	82	12	18	12	2
East Indian	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	4	.....	.....	.....	.....	.....
English	174	32	610	1,046	285	468	27	7	204	18	488	49	9	346	734	293	148	101	25	40
Filipino	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Finnish	3	2	116	35	8	16	.....	1	9	.....	18	2	1	13	268	10	10	8	.....	1
French	57	21	118	248	237	73	16	11	44	5	83	32	12	59	162	29	80	15	10	26
German	909	68	1,501	1,801	294	357	86	24	261	29	374	82	853	299	433	595	183	145	199	17

Greek	27	1	156	287	6	55	.....	4	27	4	23	8	2	15	330	107	29	14	1	.....
Hebrew	1,401	554	4,078	1,838	1,346	84	20	410	26	683	148	179	1,337	254	71	296	108	419	140	101
Irish	42	3	254	1,006	521	127	.....	1	71	3	121	12	.....	61	142	80	33	17	9	46
Italian (north)	81	6	402	126	132	78	3	2	46	21	58	4	13	59	291	1,271	69	21	41	5
Italian (south)	288	35	2,054	336	752	72	4	10	185	31	198	33	28	102	2,299	2,789	270	112	148	13
Japanese	.....	2	76	94	2	9	3	.....	14	.....	3	4	.....	5	72	4	4	.....	.....	1
Korean	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lithuanian	4	28	76	6	4	13	.....	.....	1	2	59	.....	13	2	14	16	4	1	1	.....
Magyar	101	13	277	105	25	30	.....	9	24	4	81	3	192	38	18	86	13	9	47	.....
Mexican	.....	.....	2	14	.....	6	.....	.....	.....	.....	1	2	.....	.....	136	1	1	.....	.....	.....
Pacific Islander	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....
Polish	126	72	539	89	28	31	.....	10	48	9	90	3	260	33	18	157	17	15	53	2
Portuguese	3	1	35	33	22	12	.....	.....	1	1	1	.....	.....	1	172	21	.....	.....	1	.....
Roumanian	9	1	27	16	4	5	.....	2	.....	6	4	.....	19	2	.....	7	2	.....	1	1
Russian	7	15	78	30	7	17	.....	1	4	9	5	9	18	11	41	7	6	3	3	1
Ruthenian (Russniak)	2	3	37	10	.....	1	.....	1	2	.....	6	.....	11	1	2	7	.....	1	4	.....
Scandinavian (Norwegians, Danes, and Swedes)	177	32	1,692	877	260	455	3	6	133	6	251	21	10	272	3,579	301	149	43	54	19
Scotch	44	9	218	393	76	142	5	.....	81	2	236	2	1	137	129	276	20	31	13	12
Slovak	41	2	148	25	4	5	.....	3	4	4	80	.....	70	9	10	72	3	3	37	.....
Spanish	7	1	28	424	7	341	1	.....	.....	5	11	1	.....	14	227	23	19	4	.....	.....
Spanish-American	.....	.....	3	55	1	29	.....	.....	.....	.....	.....	.....	.....	.....	24	.....	3	1	.....	.....
Syrian	5	9	97	58	19	3	.....	.....	.....	.....	1	9	2	.....	2	61	3	4	.....	.....
Turkish	4	.....	15	18	1	5	.....	.....	2	1	.....	.....	.....	1	4	14	.....	.....	1	.....
Welsh	5	1	21	38	14	20	.....	.....	2	.....	24	.....	1	11	23	24	6	7	.....	2
West Indian	.....	.....	25	192	11	9	.....	.....	1	.....	4	2	.....	2	42	5	5	4	.....	3
All other peoples	1	2	9	10	.....	2	.....	1	.....	1	7	.....	2	1	13	3	.....	1	.....	.....
Grand total	3,901	938	13,404	10,420	4,112	2,606	123	509	1,330	863	2,478	430	3,160	1,829	10,326	6,921	1,196	1,018	869	293

TABLE VIII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Race or people.	Miners.	Painters and glaziers.	Photographers.	Plasterers.	Plumbers.	Printers.	Saddlers and harness makers.	Seamstresses.	Shipwrights.	Shoemakers.	Stonecutters.	Tailors.	Tanners and curriers.	Tinners.	Textile workers (not specified).	Tobacco workers.	Upholsterers.	Watch and clock makers.	Weavers and spinners.	Wheelwrights.
African (black)	.....	6	1	.....	3	7	2	62	3	23	.....	30	.....	1	2	224	1	.....	.....	2
Armenian	2	2	2	.....	.....	4	2	1	.....	139	2	98	7	6	8	8	1	9	35	.....
Bohemian and Moravian	325	44	5	1	1	9	29	33	.....	184	28	332	11	33	3	6	1	9	57	21
Bulgarian, Servian, and Montenegrin	11	4	.....	.....	.....	6	.....	1	.....	12	.....	17	2	1	.....	1	.....	.....	1	1
Chinese	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....	.....	.....	2	.....	.....	.....	.....
Croatian and Slovenian	363	14	2	.....	.....	2	11	14	.....	57	19	92	9	7	1	.....	1	1	6	4
Cuban	.....	8	3	.....	.....	6	.....	.....	.....	.....	.....	5	.....	1	.....	1,226	.....	.....	.....	.....
Dalmatian, Bosnian, and Herzegovinian	17	2	.....	.....	1	1	.....	1	.....	7	1	19	.....	.....	.....	.....	1	.....	.....	.....
Dutch and Flemish	82	83	4	4	3	16	10	24	.....	36	7	32	2	7	4	136	11	5	61	.....
English	1,996	222	38	35	152	124	41	55	5	119	81	175	27	30	304	21	20	28	883	15
Filipino	.....	.....	2	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Finnish	36	26	1	.....	.....	4	4	27	.....	33	8	99	10	6	.....	.....	.....	5	2	.....
French	769	74	2	1	4	15	6	59	.....	28	17	58	5	5	25	3	15	49	91	2
German	803	415	30	16	31	121	124	373	.....	577	103	808	83	189	88	35	81	92	379	83
Greek	28	22	1	1	2	7	2	2	.....	168	7	102	20	6	1	36	1	5	10	.....
Hebrew	19	1,970	145	14	59	303	281	2,468	.....	2,763	24	16,426	347	882	88	582	229	561	393	28
Irish	302	45	3	28	33	42	23	206	2	69	53	124	8	2	84	.....	8	4	211	3
Italian (north)	1,503	64	5	18	5	29	2	93	1	378	516	222	10	17	12	3	4	15	164	5
Italian (south)	497	225	20	19	2	51	22	995	.....	4,474	513	3,302	29	88	48	16	11	51	189	2
Japanese	13	18	23	3	1	5	.....	3	.....	2	5	54	1	.....	9	2	.....	8	8	.....
Lithuanian	316	9	1	.....	.....	.....	4	12	.....	51	1	106	2	4	.....	1	1	1	1	1
Magyar	92	43	5	.....	2	15	13	55	.....	263	9	174	19	29	1	7	6	7	14	13
Mexican	.....	.....	.....	.....	.....	1	1	4	.....	1	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Pacific Islander	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Polish	290	83	6	.....	4	8	44	130	.....	406	15	420	31	43	5	5	5	8	65	49
Portuguese	1	3	.....	.....	.....	2	1	19	.....	27	6	6	.....	2	.....	.....	.....	1	6	.....
Roumanian	3	4	.....	.....	3	2	4	6	.....	22	.....	28	4	3	1	.....	1	1	.....	6
Russian	15	12	3	1	1	.....	3	7	.....	22	1	110	5	7	.....	7	2	8	5	1
Ruthenian (Russniak)	16	3	.....	.....	.....	.....	.....	3	.....	28	1	21	.....	2	.....	.....	.....	.....	4	2
Scandinavian (Norwegians, Danes, and Swedes)	141	378	33	5	19	88	49	315	4	328	149	412	36	92	31	24	23	75	41	16
Scotch	923	50	8	40	39	39	8	11	15	32	205	58	9	9	68	2	6	5	207	6
Slovak	99	14	.....	.....	1	2	26	11	.....	159	4	117	36	22	2	2	.....	3	14	10
Spanish	23	5	4	.....	.....	3	2	5	.....	9	51	10	1	.....	1	348	1	2	1	.....
Spanish-American	5	2	1	.....	.....	1	.....	2	.....	2	1	2	.....	.....	.....	2	.....	.....	.....	.....
Syrian	6	7	3	1	.....	7	3	18	.....	121	9	68	14	3	7	4	.....	3	62	1
Turkish	1	.....	2	2	.....	1	.....	.....	.....	11	1	30	1	.....	.....	1	.....	.....	4	.....
Welsh	407	3	.....	7	3	.....	.....	1	.....	1	7	6	.....	12	2	.....	1	1	2	1

Race or people.	Wood workers (not specified).	Other skilled.	Total skilled.	Agents.	Bankers.	Draymen, hackmen, and teamsters.	Farmers.	Farm laborers.	Fishermen.	Hotel keepers.	Laborers.	Manufacturers.	Merchants and dealers.	Servants.	Other miscellaneous.	Total miscellaneous.	No occupation (including all children under 14 years of age).	Grand total.
West Indian	1	8	3	.....	2	8	4	79	1	17	.....	7	.....	.....	1	10	.....	1	.....	1
All other peoples	4	.....	2	.....	.....	.....	.....	.....	.....	3	.....	5	1	.....	.....	.....	.....	.....	1	.....
Grand total	9,110	3,868	358	196	371	980	721	5,096	81	10,567	1,839	23,580	730	1,509	796	2,664	431	958	2,917	278
African (black)	5	3	789	1	.....	.....	7	75	3	.....	368	.....	27	496	14	991	536		2,386	
Armenian	.....	16	603	1	1	1	1	127	.....	2	224	3	75	179	2	616	490		1,745	
Bohemian and Moravian	47	74	3,043	.....	8	4	148	592	1	4	1,255	19	62	1,951	7	4,051	4,697		11,911	
Bulgarian, Servian, and Montenegrin	4	6	183	1	.....	.....	2	615	.....	1	3,483	.....	20	60	2	4,184	195		4,577	
Chinese	1	7	42	.....	.....	1	8	19	1	8	791	1	2,756	282	30	3,897	334		4,327	
Croatian and Slovenian	15	25	1,519	3	1	.....	38	2,881	8	4	12,602	3	28	1,583	4	17,105	2,598		21,242	
Cuban	2	3	1,574	5	1	2	12	7	.....	1	63	18	427	306	49	891	2,121		4,811	
Dalmatian, Bosnian, and Herzegovinian	2	1	486	1	.....	1	3	556	25	1	785	.....	4	66	1	1,443	102		2,036	
Dutch and Flemish	20	66	1,458	16	19	6	242	753	11	8	902	27	261	470	97	2,812	3,295		7,832	
East Indian	.....	.....	8	.....	1	.....	.....	4	.....	.....	7	1	38	87	1	89	32		258	
English	77	856	11,833	290	200	63	499	432	64	66	1,913	422	1,853	3,636	1,001	10,439	16,797		41,479	
Filipino	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	1	.....	6	8	.....	15	9		29	
Finnish	1	14	828	1	.....	.....	27	173	8	1	3,755	6	21	2,564	6	6,562	2,710		10,157	
French	15	153	2,758	46	34	15	135	432	.....	24	601	73	596	1,428	91	3,475	4,301		11,557	
German	215	477	15,780	50	24	36	1,181	3,488	21	97	9,353	220	3,498	10,487	252	28,707	27,771		74,790	
Greek	9	24	1,808	3	2	3	43	3,225	24	22	5,357	6	345	631	36	9,697	1,031		12,625	
Hebrew	271	857	45,109	26	7	33	65	296	9	18	8,371	74	3,464	9,292	144	21,799	38,485		106,236	
Irish	29	182	4,246	38	10	35	336	1,522	16	47	8,927	29	304	15,788	392	27,444	4,816		37,076	
Italian (north)	22	118	6,408	8	6	57	260	5,154	12	25	13,526	30	582	2,731	79	22,470	7,829		36,699	
Italian (south)	143	262	24,247	10	14	212	269	42,471	279	19	42,502	59	1,306	10,080	155	97,378	36,988		159,329	
Japanese	11	35	641	3	5	3	121	6,775	38	86	1,474	28	1,164	317	90	10,124	3,244		14,382	
Korean	.....	.....	1	.....	.....	.....	.....	1,618	.....	.....	9	.....	13	9	.....	1,644	258		1,907	
Lithuanian	4	22	831	.....	.....	1	8	400	3	.....	6,941	1	9	2,107	1	9,471	2,462		12,780	
Magyar	34	60	2,183	2	1	4	60	3,345	1	7	9,169	22	141	3,316	13	16,081	5,405		23,888	
Mexican	.....	.....	174	1	.....	.....	3	.....	.....	1	12	1	49	46	4	117	123		447	
Pacific Islander	.....	.....	7	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	2	.....	3	2		12	
Polish	57	74	3,811	2	.....	4	68	2,007	6	4	34,824	23	95	11,988	10	48,981	14,829		67,757	
Portuguese	3	10	409	5	.....	.....	31	534	67	.....	1,894	.....	107	1,076	1	3,715	2,188		6,338	
Roumanian	4	3	236	1	1	.....	3	398	1	.....	3,259	1	32	107	.....	3,808	302		4,364	
Russian	2	12	543	1	2	.....	18	71	.....	.....	1,895	7	126	284	4	2,403	896		3,961	
Ruthenian (Russniak)	4	2	191	.....	.....	1	4	650	.....	.....	5,813	.....	3	1,810	.....	8,281	1,111		9,592	
Scandinavian (Norwegians, Danes, and Swedes)	63	241	11,749	35	8	23	490	3,724	213	19	14,668	31	307	15,088	170	34,776	13,720		61,029	
Scotch	43	319	4,129	43	23	24	145	152	2	9	385	108	334	1,011	256	2,492	4,326		11,483	
Slovak	16	27	1,191	.....	.....	.....	73	2,366	1	1	13,165	5	15	4,623	1	20,250	6,479		27,940	

TABLE VIII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Race or people.	Wood workers (not specified).	Other skilled.	Total skilled.	Agents.	Bankers.	Draymen, hackmen, and teamsters.	Farmers.	Farm laborers.	Fishermen.	Hotel keepers.	Laborers.	Manufacturers.	Merchants and dealers.	Servants.	Other miscellaneous.	Total miscellaneous.	No occupation including all children under 14 years of age).	Grand total.
Spanish	4	16	1,648	18	8	.....	65	240	1	7	416	31	729	255	43	1,813	949	4,662
Spanish-American	.....	4	141	10	1	1	42	11	.....	1	36	.....	296	76	12	486	848	1,666
Syrian	.....	15	689	4	.....	4	28	497	.....	2	570	1	331	325	5	1,767	1,169	3,658
Turkish	.....	1	135	2	.....	.....	7	238	.....	1	819	5	113	82	4	1,221	101	1,482
Welsh	.....	35	705	4	.....	.....	25	33	.....	3	94	6	23	149	29	366	672	1,820
West Indian	4	5	476	4	2	.....	38	15	.....	2	44	3	191	240	21	560	785	1,942
All other peoples	.....	3	74	.....	.....	.....	7	9	1	.....	152	1	75	51	7	303	191	668
Grand total	1,127	4,027	152,191	635	379	534	4,507	85,850	816	491	210,426	1,285	19,848	104,987	3,084	432,722	214,692	812,870

TABLE IX.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, SHOWING THEIR DESTINATONS AND OCCUPATIONS.

Destination.	Actors.	Architects.	Clergy.	Editors.	Electricians.	Engineers (professional).	Lawyers.	Literary and scientific persons.	Musicians.	Officials (government).	Physicians.	Sculptors and artists.	Teachers.	Other professional.	Total professional.	Bakers.	Barbers and hairdressers.	Blacksmiths.	Bookbinders.	Brewers.
Alabama		1	2			9		2	1	3	1				19	7	3	6		
Alaska			4			4							1		9					
Arizona			9			6			3						18	1		6		
Arkansas		1	4	1		1	2				1				9	1	1	1		
California	33	12	79	22	14	106	30	30	40	91	72	34	91	6	660	126	33	86	9	8
Colorado	1		8	2	1	18	3	2	3	6	3	3	5		55	11	3	20	1	1
Connecticut	3	4	10	1	6	20	1	3	10	1	3	10	35	2	109	82	88	100	8	4
Delaware		1	5						1				2		9	8	1	3		
District of Columbia	2	2	16	3	4	16	8	2	3	72	12		17	2	159	12	11	1	3	
Florida	26	3	7	3		12	3	2	4	10	18	4	15		107	22	33	6	2	2
Georgia		1	2	2		3	1	1	3	2	1		1		17	2	1	3	1	
Hawaii		2	16	1		7	2	6	1	5	16	2	7		65	2	2	5		
Idaho			1										1		2	2		1		
Illinois	14	29	62	16	34	96	5	20	73	12	42	41	102	5	551	316	130	342	40	35
Indiana	3	1	4	1	1	6		1	5	1	3	6	17	1	50	11	4	21	4	2
Indian Territory			2							1					3			4		
Iowa	1		10	2	2	7	1		3	3	6		13		48	30	5	66	6	4
Kansas		1	3			2				1			47		54	7		9		1
Kentucky			9			2			1		2	1	3		18	3		4		2
Louisiana	56	1	30	11	2	18	14	4	8	17	8	7	21		197	13	26	6	4	
Maine	1	2	6	1	1			1	4	1			4		21	8	2	10	2	
Maryland	2	8	11	3	3	20	4	3	19	2	13	4	31	6	129	71	36	42	6	11
Massachusetts	40	22	77	16	39	116	15	34	112	27	36	44	196	3	777	281	255	278	51	9
Michigan	6	6	16	3	8	30		13	8	1	4	7	25		127	78	23	74	3	4
Minnesota	1	5	28		3	15	3	1	11	5	7	1	26		106	63	14	100	6	8
Mississippi			2			2				1	1	1	1		8	2	4	2		1
Missouri	198	73	23	87	22	128	36	33	144	229	37	92	71	34	1,207	101	44	74	10	25
Montana			1		1	4		3	1		1		4		15	9	1	10		1
Nebraska			12			4		1	2		5		5		29	11	5	25	1	3
Nevada						1									1	1		6		
New Hampshire		2	4			2		3				1	5		17	6	1	7		
New Jersey	14	24	45	5	25	69	6	13	47	13	25	14	71	4	375	200	208	224	24	12
New Mexico			3			2				1					6	2		2		1
New York	635	222	376	183	181	1,048	221	223	696	413	446	578	821	63	6,106	2,302	1,937	1,487	459	113
North Carolina			2			1		1	1	3			2		10	1		1		
North Dakota		2	5		1	2			1		1		11		23	8	8	42	1	
Ohio	21	10	38	8	9	57	5	6	29	7	12	17	51	2	267	128	75	211	12	28
Oklahoma		1	7						1	1					10			1		
Oregon	2		6	1		7		1	1				1		19	9	5	13		3

TABLE VII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, SHOWING THEIR DESTINATIONS BY RACES OR PEOPLES.

Race or people.	Alabama.	Alaska.	Arizona.	Arkansas.	California.	Colorado.	Connecticut.	Delaware.	District of Columbia.	Florida.	Georgia.	Hawaii.	Idaho.	Illinois.	Indiana.	Indian Territory.	Iowa.	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.	Missouri.	Montana.	Nebraska.	Nevada.
African (black)	16	...	...	1	35	...	25	...	9	955	1	...	...	7	...	...	1	...	5	2	1	8	429	2	1	5	55	...	1	...
Armenian	...	...	...	...	35	...	55	...	1	...	...	...	...	51	1	...	1	...	...	...	27	...	559	10	3	...	23	...	...	...
Bohemian and Moravian	...	4	...	39	28	80	41	13	1	6	1	...	4	3,196	28	9	342	100	1	1	...	292	53	150	239	2	382	7	760	...
Bulgarian, Servian, and Montenegrin	...	16	34	...	131	39	18	1	2	...	3	...	2	486	124	...	1	11	...	2	7	27	81	69	37	5	146	28	...	8
Chinese	...	...	3	...	2,447	2	6	...	55	1	1	415	5	28	...	...	2	...	...	66	2	20	119	...	10	3	81	17	...	...
Croatian and Slovenian	6	2	28	115	412	366	86	...	17	1	1	6	3	2,734	142	3	145	265	13	23	8	48	21	519	412	14	898	165	50	32
Cuban	31	...	...	...	6	1	5	...	18	2,991	3	...	1	3	2	...	...	...	3	81	...	45	26	5	...	5	71	...	4	...
Dalmatian, Bosnian, and Herzegovinian	...	8	18	...	367	66	3	...	...	...	...	...	1	153	4	...	1	1	...	42	...	1	4	1	14	5	33	52	...	7
Dutch and Flemish	17	1	...	1	101	30	19	1	8	8	5	5	3	1,155	200	1	377	47	6	40	3	20	398	1,592	145	10	462	26	53	...
East Indian	...	...	...	...	19	...	1	...	1	...	1	...	...	2	4	...	...	1	...	6	1	...	8	1	...	...	93	1	...	...
English	88	17	154	21	2,960	333	694	27	139	347	47	109	59	1,991	249	10	272	208	77	224	305	261	5,935	1,268	337	21	890	185	150	19
Filipino	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	9	...	1	...
Finnish	2	10	7	1	278	58	67	...	3	13	2	...	12	256	29	...	4	4	...	7	85	8	1,499	2,384	1,457	4	14	134	6	4
French	107	9	20	15	1,139	57	182	4	86	42	4	6	5	566	178	12	70	311	8	325	15	48	489	85	38	3	602	23	19	41
German	58	2	29	86	1,709	488	1,034	55	180	113	47	26	62	7,261	671	6	1,369	919	179	146	25	1,209	1,115	2,098	1,553	16	8,843	136	1,079	19
Greek	58	...	1	19	142	62	135	8	37	34	89	...	5	2,879	65	1	45	18	1	15	59	52	2,119	98	17	2	774	...	13	...
Hebrew	58	1	2	14	311	145	1,601	51	149	16	129	...	5	4,538	124	...	156	84	95	106	169	1,976	6,229	407	672	22	1,358	10	144	...
Irish	12	6	25	4	966	127	1,412	76	107	14	18	2	3	1,933	184	2	124	90	45	28	241	164	7,612	188	151	6	542	144	82	11
Italian (north)	109	4	108	77	5,803	656	1,329	72	91	26	21	2	27	2,799	341	213	259	356	9	73	59	78	2,151	801	183	258	823	162	50	343
Italian (south)	194	...	14	13	1,020	814	4,704	428	252	562	11	...	23	5,184	190	71	175	86	27	3,544	250	617	10,900	943	253	103	1,027	40	100	21
Japanese	...	16	4	...	4,003	...	4	...	10	...	...	6,590	6	47	1	...	...	2	...	2	1	3	34	6	1	...	518	10	3	...
Korean	...	...	...	...	8	...	...	...	...	...	...	1,884	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Lithuanian	...	2	3	1	6	2	695	17	2	...	...	...	...	1,914	86	21	14	...	1	...	84	210	1,604	148	8	...	38	...	5	...
Magyar	13	...	2	2	17	12	869	6	6	3	1	...	1	830	421	6	9	4	4	3	5	83	98	214	78	2	210	6	9	...
Mexican	7	...	...	...	134	...	...	...	4	7	...	...	...	...	2	...	...	...	...	3	...	6	4	...	...	1	8	...	...	...
Pacific Islander	...	...	...	...	8	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Polish	13	2	...	13	45	16	2,690	356	8	2	1	...	...	8,244	410	17	31	47	8	19	71	960	5,823	2,124	366	6	385	8	139	...
Portuguese	1	...	...	...	1,028	...	109	1	4	3	...	12	3	84	...	...	...	...	...	7	2	1	3,920	1	...	...	23	1	...	38
Roumanian	...	...	...	...	3	...	35	...	1	...	...	...	...	127	303	...	14	...	...	...	...	20	17	32	6	...	73	1	5	...
Russian	1	4	1	1	98	...	129	9	9	2	1	2	...	258	7	3	7	...	8	5	6	150	352	41	12	...	62	1	8	...
Ruthenian (Russniak)	6	...	...	4	10	6	255	25	1	...	...	...	1	199	9	4	3	6	...	1	1	56	156	40	20	...	48	...	1	...
Scandinavian (Norwegians, Danes, and Swedes)	126	20	85	7	1,416	485	1,237	28	88	43	12	7	130	7,752	177	2	2,465	339	10	106	229	141	3,978	1,929	10,078	21	406	448	1,157	58

Race or people.	New Hampshire.	New Jersey.	New Mexico.	New York.	North Carolina.	North Dakota.	Ohio.	Oklahoma.	Oregon.	Pennsylvania.	Porto Rico.	Rhode Island.	South Carolina.	South Dakota.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	Wyoming.	Tourists.	Philippine Islands.	Total.
Scotch	66	11	11	40	464	113	216	6	17	20	18	37	15	676	136	32	104	67	30	24	111	165	1,420	207	161	5	205	106	27	5	
Slovak	51	...	2	10	40	55	709	5	3	1	...	...	...	1,800	210	7	54	22	4	7	20	99	198	119	136	1	198	83	5	1	
Spanish	16	...	22	...	395	7	8	.....	21	967	3	.....	75	18	5	1	.....	1	...	131	5	7	71	1	.....	.....	155	1	.....	124	
Spanish-American	9	...	1	...	202	1	1	.....	70	7	2	.....	...	10	11	...	4	.....	1	99	1	5	18	2	4	.....	154	.....	.....	1	
Syrian	9	...	21	3	6	9	127	.....	10	9	20	.....	...	104	93	1	10	8	22	67	68	8	474	83	14	18	95	1	9	....	
Turkish	2	...	...	...	17	2	27	2	.....	.....	.....	1	...	38	51	...	.....	.....	...	4	29	8	231	30	3	1	68	.....	.....	....	
Welsh	4	...	...	1	49	37	17	1	8	1	5	1	...	96	41	...	36	9	1	1	4	20	39	21	12	1	25	9	15	1	
West Indian	19	...	...	...	28	1	20	1	8	14	2	.....	...	5	.....	.....	.....	2	...	20	.....	24	159	.....	2	....	4	.....	.....	....	
All other peoples	2	...	...	...	44	.....	11	.....	6	1	...	.....	...	33	3	...	.....	.....	...	6	7	7	68	6	2	....	106	1	.....	1	
Grand total	1,096	135	545	488	25,934	3,970	18,526	1,193	1,376	6,209	449	9,108	451	57,457	4,402	422	6,096	2,958	558	5,236	1,901	6,847	58,411	15,570	16,425	540	14,897	1,751	3,895	729	
African (black)	.....	64	....	b61	2	.....	1	....	.....	86	62	89	....	.....	.....	...	1	.....	.....	4	1	.....	.....	.....	6	....	2,386				
Armenian	21	107	....	597	.....	.....	8	....	1	63	.....	171	....	.....	.....	...	7	.....	.....	3	.....	.....	.....	.....	1	....	1,745				
Bohemian and Moravian	.....	187	6	1,843	.....	86	1,877	44	1	989	2	3	....	81	1	468	2	1	23	41	78	443	2	4	....	11,911				
Bulgarian, Servian, and Montenegrin	15	34	28	513	3	1	607	.....	.....	1,953	.....	2	....	3	....	14	1	.....	4	38	61	10	17	.....	.....	....	4,577				
Chinese	.....	13	....	491	.....	.....	2	....	67	60	.....	12	....	.....	1	1	4	1	6	381	.....	2	1	2	....	4,327				
Croatian and Slovenian	.....	312	92	1,807	3	16	2,499	....	12	8,683	.....	3	....	19	65	23	98	2	18	257	375	400	72	1	....	21,242				
Cuban	1	31	....	1,253	12	.....	2	1	....	94	96	6	....	.....	3	2	.....	3	5	.....	.....	1	.....	.....	....	4,811				
Dalmatian, Bosnian, and Herzegovinian	.....	150	....	693	....	.....	66	....	42	102	1	.....	1	24	....	16	3	5	3	120	27	.....	2	.....	....	2,036				
Dutch and Flemish	3	596	4	1,397	....	23	111	7	34	202	10	50	....	94	3	58	85	1	11	75	6	305	1	22	....	7,832				
East Indian	.....	12	....	82	.....	.....	2	....	1	9	.....	.....	2	.....	.....	.....	.....	.....	.....	8	.....	.....	.....	3	....	258				
English	216	1,465	29	11,331	31	157	1,152	19	135	4,988	32	1,215	12	98	47	307	398	69	147	558	221	222	64	1,172	2	41,479				
Filipino	.....	.....	1	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	4	.....	2	29				
Finnish	85	156	9	1,474	.....	66	389	8	250	374	.....	26	1	87	3	9	53	18	5	374	.....	356	114	2	....	10,157				
French	12	202	8	4,432	1	19	205	12	21	1,419	112	170	4	20	4	106	16	8	11	140	20	42	12	53	....	11,557				
German	58	4,528	21	20,235	13	1,704	5,273	137	410	10,424	25	162	20	892	36	612	290	22	118	672	237	3,220	54	104	....	74,790				
Greek	298	133	....	3,579	15	.....	239	4	20	906	.....	78	8	.....	45	21	70	13	56	47	47	294	2	2	....	12,625				
Hebrew	47	3,445	4	68,693	7	44	2,053	7	62	11,691	2	487	4	18	87	158	22	39	119	73	41	611	1	4	....	106,236				
Irish	265	2,226	2	13,005	2	58	629	4	46	5,191	1	833	4	24	30	59	61	55	31	108	26	73	26	48	....	37,076				
Italian (north)	59	1,062	69	8,905	....	7	643	1	87	6,574	14	189	1	51	142	170	287	234	72	349	223	165	100	12	....	36,699				
Italian (south)	59	10,584	9	76,124	1	5	4,510	....	48	30,234	72	2,585	10	9	42	288	81	247	82	243	2,110	512	49	9	....	159,329				
Japanese	1	5	4	247	....	1	8	....	318	16	1	.....	.....	.....	2	50	8	.....	2	2,446	.....	4	4	4	....	14,382				
Korean	.....	.....	.....	9	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	2	.....	.....	.....	.....	....	1,907				
Lithuanian	87	615	....	1,592	....	24	242	....	.....	5,046	.....	29	....	6	....	.....	.....	20	18	23	132	139	1	.....	....	12,780				
Magyar	5	3,486	1	4,781	1	83	3,810	1	9	8,125	1	3	....	8	....	9	.....	46	104	17	427	90	12	.....	....	28,888				
Mexican	.....	2	....	250	....	.....	8	....	.....	5	4	.....	.....	.....	1	4	.....	.....	.....	.....	.....	.....	.....	.....	2	....	447				
Pacific Islander	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	....	12				
Polish	338	6,273	....	13,185	2	104	2,474	9	6	20,770	2	517	....	11	10	36	.....	355	32	86	502	1,211	30	.....	....	67,757				
Portuguese	3	3	....	276	1	.....	4	....	6	12	.....	769	....	.....	.....	.....	.....	10	1	2	.....	3	....	10	....	6,338				

TABLE VII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Race or people.	New Hampshire.	New Jersey.	New Mexico.	New York.	North Carolina.	North Dakota.	Ohio.	Oklahoma.	Oregon.	Pennsylvania.	Porto Rico.	Rhode Island.	South Carolina.	South Dakota.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington.	West Virginia.	Wisconsin.	Wyoming.	Tourists.	Philippine Islands.	Total.
Roumanian	2	40	....	294	....	8	2,149	....	.....	1,161	.....	3	....	.....	....	2	1	11	1	1	53	.....	....	1	....	4,364
Russian	29	209	1	1,281	1	78	77	....	10	907	.....	18	....	21	....	11	.....	14	3	34	45	43	....	2	....	3,961
Ruthenian (Russniak)	24	1,094	....	1,653	....	48	405	....	.....	5,336	.....	50	.....	.....	....	16	.....	44	2	8	42	17	6	.....	....	9,592
Scandinavian (Norwegians, Danes, and Swedes)	176	1,472	36	10,928	2	2,991	429	29	468	2,150	7	436	6	1,590	20	134	412	101	53	2,248	10	4,377	110	19	....	61,029
Scotch	34	551	4	2,559	7	63	357	2	75	2,156	2	174	4	20	44	78	43	173	40	204	124	53	69	132	....	11,483
Slovak	2	2,591	3	3,480	....	16	2,244	....	1	14,925	2	7	1	3	1	42	2	42	74	31	358	320	8	2	....	27,940
Spanish	.....	15	9	1,620	....	.....	14	2	5	67	710	2	....	.....	1	77	2	68	2	10	.....	.....	1	23	....	4,662
Spanish-American	.....	13	4	806	.....	.....	7	....	7	47	143	.....	.....	.....	7	7	.....	.....	.....	5	.....	7	....	10	....	1,666
Syrian	22	64	2	1,238	5	5	229	3	2	449	44	92	14	9	1	41	1	4	39	8	64	28	....	.....	....	3,653
Turkish	32	9	....	274	....	.....	187	....	.....	396	11	82	....	.....	....	2	.....	.....	3	2	15	3	2	.....	....	1,482
Welsh	.....	29	1	285	....	5	146	....	6	770	.....	2	3	1	....	14	8	43	7	14	5	24	....	7	....	1,820
West Indian	1	38	....	1,137	1	.....	2	....	1	94	331	13	....	1	1	.....	.....	.....	.....	.....	.....	1	1	11	....	1,942
All other peoples	10	14	....	235	1	.....	22	....	.....	53	8	1	....	.....	....	1	.....	.....	.....	7	2	.....	....	10	....	668
Grand total	1,905	41,780	347	263,150	112	5,562	33,077	290	2,152	146,478	1,695	8,179	95	8,090	597	2,797	1,943	1,649	1,089	8,634	5,251	12,976	765	1,676	4	812,870

TABLE VIII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, SHOWING THEIR OCCUPATIONS BY RACES OR PEOPLES.

Race or people.	Actors.	Architects.	Clergy.	Editors.	Electricians.	Engineers (professional).	Lawyers.	Literary and scientific persons.	Musicians.	Officials (government).	Physicians.	Sculptors and artists.	Teachers.	Other professional.	Total professional.	Bakers.	Barbers and hairdressers.	Blacksmiths.	Bookbinders.	Brewers.
African (black)	20	.....	18	.....	2	2	.....	1	1	8	8	.....	25	.....	70	4	10	10	.....	.....
Armenian	3	3	2	3	.....	.....	.....	3	1	.....	5	1	15	.....	36	80	84	18	2	.....
Bohemian and Moravian	2	7	6	5	1	14	.....	6	53	1	2	15	8	.....	120	124	22	160	4	28
Bulgarian, Servian, and Montenegrin	.....	.....	.....	.....	1	1	1	3	.....	3	3	.....	3	.....	15	7	8	10	.....	.....
Chinese	2	.....	2	.....	.....	.....	.....	2	.....	80	5	.....	10	3	54	1	.....	.....	.....	.....
Croatian and Slovenian	.....	1	.....	.....	.....	4	1	.....	4	1	.....	1	7	1	20	29	6	44	2	8
Cuban	48	1	2	10	2	16	33	2	4	81	50	6	19	1	225	12	19	.....	.....	.....
Dalmatian, Bosnian, and Herzegovinian	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	2	1	.....	5	3	3	2	.....	.....
Dutch and Flemish	10	20	48	12	7	43	8	10	22	26	16	17	23	5	267	88	15	26	1	8
East Indian	93	.....	2	1	.....	2	1	1	.....	5	2	8	2	12	129	.....	.....	.....	.....	.....
English	435	104	234	132	79	662	128	126	123	243	172	126	318	28	2,910	145	61	185	23	17
Finnish	.....	6	8	1	1	14	3	2	4	1	6	4	7	.....	57	14	2	15	.....	1
French	80	45	111	21	14	155	18	33	26	54	30	105	322	9	1,023	71	25	30	3	.....
German	78	164	147	58	77	471	51	130	351	168	145	287	396	64	2,532	1,068	338	536	67	243
Greek	9	.....	5	6	4	5	3	8	12	2	7	9	18	1	89	149	36	68	2	3
Hebrew	28	27	51	13	48	50	6	32	260	4	70	36	211	7	843	1,173	408	826	585	19
Irish	37	6	142	18	17	55	21	10	25	22	21	14	180	2	570	68	19	136	10	8
Italian (north)	61	10	43	11	12	27	7	9	69	48	48	111	38	3	492	236	52	181	4	.....
Italian (south)	12	11	61	7	34	33	18	11	281	44	80	75	45	4	716	637	2,097	784	11	.....
Japanese	58	3	44	28	3	14	3	5	1	99	41	25	49	.....	373	112	22	11	.....	2
Korean	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1	.....	4	.....	.....	.....	.....	.....
Lithuanian	.....	3	1	1	.....	1	.....	2	6	.....	.....	1	1	.....	16	14	2	33	.....	1
Magyar	6	13	29	9	4	31	11	7	22	14	17	36	13	2	214	43	40	155	7	2
Mexican	3	1	.....	.....	.....	3	6	.....	1	13	5	1	.....	.....	33	.....	.....	2	.....	.....
Polish	2	7	30	5	3	14	3	7	35	3	3	5	18	1	136	148	21	270	23	2
Portuguese	.....	.....	5	2	.....	6	2	.....	1	6	4	3	2	.....	31	3	9	5	1	.....
Roumanian	4	.....	.....	3	2	6	1	2	1	1	1	2	.....	.....	23	8	4	21	2	.....
Russian	8	3	12	5	4	27	1	5	14	15	8	9	7	1	119	13	8	22	4	.....
Ruthenian (Russniak)	.....	.....	6	1	.....	.....	.....	.....	1	.....	.....	.....	1	.....	9	3	1	18	.....	.....
Scandinavian (Norwegians, Danes, and Swedes)	22	31	49	32	63	269	19	25	44	61	37	27	98	7	784	250	51	496	32	17
Scotch	22	33	29	8	9	229	31	18	11	20	35	12	66	13	536	80	19	96	5	.....
Slovak	.....	1	1	.....	.....	.....	.....	1	8	1	1	1	6	.....	20	17	2	80	5	2
Spanish	51	.....	50	5	2	22	11	5	11	41	16	26	12	.....	252	27	11	10	1	.....
Spanish-American	4	2	8	4	4	30	31	2	2	38	49	10	7	.....	191	1	2	.....	.....	.....

TABLE VIII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Race or people.	Actors.	Architects.	Clergy.	Editors.	Electricians.	Engineers (professional).	Lawyers.	Literary and scientific persons.	Musicians.	Officials (government).	Physicians.	Sculptors and artists.	Teachers.	Other professional.	Total professional.	Bakers.	Barbers and hairdressers.	Blacksmiths.	Bookbinders.	Brewers.
Syrian	2	.....	10	1	1	.....	.....	3	1	.....	3	.....	7	.....	28	14	16	33	1	.....
Turkish	6	.....	3	2	.....	1	.....	2	.....	3	1	4	3	.....	25	8	6	.....	.....	.....
Welsh	1	3	22	2	2	13	.....	4	10	4	1	.....	15	.....	77	4	3	10	.....	.....
West Indian	4	1	17	3	1	3	29	2	1	19	11	1	29	.....	121	5	3	9	2	.....
All other peoples	56	.....	.....	.....	1	3	1	.....	13	16	8	2	.....	.....	100	.....	1	1	.....	.....
Grand total	1,169	507	1,193	410	398	2,226	448	479	1,419	1,030	907	982	1,983	164	13,265	4,599	3,866	4,308	747	356

Race or people.	Butchers.	Cabinetmakers.	Carpenters and joiners.	Clerks and accountants.	Dressmakers.	Engineers (stationary) and firemen.	Engravers.	Furriers and fur workers.	Gardeners.	Hat and cap makers.	Iron workers.	Jewelers.	Locksmiths.	Machinists.	Mariners.	Masons.	Mechanics (not specified).	Metal workers (other than iron, steel, and tin).	Millers.	Milliners.
African (black)	3	1	61	42	33	18	.....	.....	.....	1	1	1	.....	2	216	8	1	2	.....	.....
Armenian	6	5	65	22	6	8	.....	.....	6	1	12	10	2	8	3	8	4	8	2	1
Bohemian and Moravian	249	10	314	113	16	26	1	6	25	10	145	1	247	30	10	176	16	15	47	.....
Bulgarian, Servian, and Montenegrin	6	1	19	14	.....	3	1	.....	9	1	1	.....	8	1	20	9	2	.....	1	.....
Chinese	1	.....	.....	12	.....	2	.....	.....	9	.....	1	.....	.....	1	1	.....	.....	.....	.....	.....
Croatian and Slovenian	36	3	97	46	12	22	.....	.....	7	6	12	1	44	11	358	120	4	.....	18	.....
Cuban	7	.....	18	214	.....	3	.....	.....	.....	.....	4	1	.....	8	10	2	21	1	.....	.....
Dalmatian, Bosnian, and Herzegovinian	3	1	13	12	2	12	.....	.....	.....	.....	.....	.....	1	.....	368	11	1	.....	1	.....
Dutch and Flemish	72	4	126	137	27	47	3	.....	84	.....	27	7	4	20	78	32	12	13	12	2
East Indian	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	4	.....	.....	.....	.....	.....
English	174	32	610	1,646	235	468	27	7	204	18	438	49	9	346	734	293	148	101	25	40
Filipino	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Finnish	3	2	115	85	8	16	.....	1	9	.....	18	2	1	13	268	10	10	8	.....	1
French	57	21	118	243	237	73	16	11	44	5	88	32	12	59	162	29	30	15	10	26
German	909	68	1,501	1,801	294	357	86	24	261	29	374	32	853	299	433	595	133	145	199	17

Greek	27	1	156	287	6	55	.....	4	27	4	23	8	2	15	330	107	29	14	1	.....
Hebrew	1,401	554	4,078	1,838	1,346	84	20	410	26	688	148	179	1,387	254	71	296	108	419	140	101
Irish	42	3	254	1,006	521	127	.....	1	71	3	121	12	.....	61	142	80	88	17	9	46
Italian (north)	81	6	402	126	132	78	3	2	46	21	58	4	13	59	291	1,271	69	21	41	5
Italian (south)	288	35	2,054	336	752	72	4	10	185	31	198	33	28	102	2,299	2,789	270	112	148	13
Japanese	.....	2	76	94	2	9	3	.....	14	.....	8	4	.....	5	72	4	4	.....	.....	1
Korean	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lithuanian	4	28	76	6	4	13	.....	.....	1	2	59	.....	13	2	14	16	4	1	1	.....
Magyar	101	13	277	105	25	30	.....	9	24	4	81	3	192	38	18	86	13	9	47	.....
Mexican	.....	.....	2	14	.....	6	.....	.....	.....	.....	1	2	.....	.....	136	1	1	.....	.....	.....
Pacific Islander	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....
Polish	126	72	539	89	28	31	.....	10	48	9	90	3	260	38	18	157	17	15	53	2
Portuguese	3	1	35	33	22	12	.....	.....	1	1	1	.....	.....	1	172	21	.....	.....	1	.....
Roumanian	9	1	27	16	4	5	.....	2	.....	6	4	.....	19	2	.....	7	2	.....	1	1
Russian	7	15	78	30	7	17	.....	1	4	9	5	9	18	11	41	7	6	8	3	1
Ruthenian (Russniak)	2	3	37	10	.....	1	.....	1	2	.....	6	.....	11	1	2	7	.....	1	4	.....
Scandinavian (Norwegians, Danes, and Swedes)	177	32	1,692	877	260	455	3	6	133	6	251	21	10	272	3,579	301	149	48	54	19
Scotch	44	9	218	393	76	142	5	.....	81	2	236	2	1	137	129	276	20	31	13	12
Slovak	41	2	148	25	4	5	.....	3	4	4	80	.....	70	9	10	72	3	3	37	.....
Spanish	7	1	28	424	7	341	1	.....	.....	5	11	1	.....	14	227	23	19	4	.....	.....
Spanish-American	.....	.....	3	55	1	29	.....	.....	.....	.....	.....	.....	.....	.....	24	.....	3	1	.....	.....
Syrian	5	9	97	58	19	3	.....	.....	.....	.....	1	9	2	.....	2	61	3	4	.....	.....
Turkish	4	.....	15	18	1	5	.....	.....	2	1	.....	.....	.....	1	4	14	.....	.....	1	.....
Welsh	5	1	21	88	14	20	.....	.....	2	.....	24	.....	1	11	23	24	6	7	.....	2
West Indian	.....	.....	25	192	11	9	.....	.....	1	.....	4	2	.....	2	42	5	5	4	.....	3
All other peoples	1	2	9	10	.....	2	.....	1	.....	1	7	.....	2	1	13	3	.....	1	.....	.....
Grand total	3,901	988	13,404	10,420	4,112	2,606	123	509	1,330	863	2,478	480	3,160	1,829	10,326	6,921	1,196	1,018	869	298

TABLE VIII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Race or people.	Miners.	Painters and glaziers.	Photographers.	Plasterers.	Plumbers.	Printers.	Saddlers and harness makers.	Seamstresses.	Shipwrights.	Shoemakers.	Stonecutters.	Tailors.	Tanners and curriers.	Tinners.	Textile workers (not specified).	Tobacco workers.	Upholsterers.	Watch and clock makers.	Weavers and spinners.	Wheelwrights.
African (black)	.....	6	1	.....	3	7	2	62	3	23	.....	30	.....	1	2	224	1	.....	.....	2
Armenian	2	2	2	.....	.....	4	2	1	.....	139	2	98	7	6	8	8	1	9	35	.....
Bohemian and Moravian	325	44	5	1	1	9	29	33	.....	184	23	332	11	33	3	6	1	9	57	21
Bulgarian, Servian, and Montenegrin	11	4	.....	.....	.....	6	.....	1	.....	12	.....	17	2	1	.....	1	.....	.....	1	1
Chinese	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....	.....	.....	2	.....	.....	.....	.....
Croatian and Slovenian	363	14	2	.....	.....	2	11	14	.....	57	19	92	9	7	1	.....	1	1	6	4
Cuban	.....	8	3	.....	.....	6	.....	.....	.....	.....	.....	5	.....	1	.....	1,226	.....	.....	.....	.....
Dalmatian, Bosnian, and Herzegovinian	17	2	.....	.....	1	1	.....	1	.....	7	1	19	.....	.....	.....	.....	1	.....	.....	.....
Dutch and Flemish	82	83	4	4	3	16	10	24	.....	36	7	32	2	7	4	136	11	5	61	.....
English	1,996	222	38	35	152	124	41	55	5	119	81	175	27	30	304	21	20	28	883	15
Filipino	.....	.....	2	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Finnish	36	26	1	.....	.....	4	4	27	.....	33	8	99	10	6	.....	.....	.....	5	2	.....
French	769	74	2	1	4	15	6	59	.....	28	17	58	5	5	25	8	15	49	91	2
German	803	415	30	16	31	121	124	373	.....	577	103	808	83	189	88	35	81	92	379	83
Greek	28	22	1	1	2	7	2	2	.....	168	7	102	20	6	1	36	1	5	10	.....
Hebrew	19	1,970	145	14	59	303	281	2,468	.....	2,763	24	16,426	347	882	88	582	229	561	393	28
Irish	302	45	3	28	33	42	23	206	2	69	53	124	8	2	84	.....	8	4	211	3
Italian (north)	1,503	64	5	18	5	29	2	93	1	378	516	222	10	17	12	3	4	15	164	5
Italian (south)	497	225	20	19	2	51	22	995	.....	4,474	513	3,302	29	88	48	16	11	51	189	2
Japanese	13	18	23	3	1	5	.....	3	.....	2	5	54	1	.....	9	2	.....	8	8	.....
Lithuanian	316	9	1	.....	.....	.....	4	12	.....	51	1	106	2	4	.....	1	1	1	1	1
Magyar	92	43	5	.....	2	15	13	55	.....	263	9	174	19	29	1	7	6	7	14	13
Mexican	.....	.....	.....	.....	.....	1	1	4	.....	1	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Pacific Islander	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Polish	290	83	6	.....	4	8	44	130	.....	405	15	420	31	43	5	5	5	8	65	49
Portuguese	1	8	.....	.....	.....	2	1	19	.....	27	6	6	.....	2	.....	.....	.....	1	6	.....
Roumanian	8	4	.....	.....	3	2	4	6	.....	22	.....	28	4	3	1	.....	1	1	.....	6
Russian	15	12	3	1	1	.....	3	7	.....	22	1	110	5	7	.....	7	2	8	5	1
Ruthenian (Russniak)	16	3	.....	.....	.....	.....	.....	3	.....	28	1	21	.....	2	.....	.....	.....	.....	4	2
Scandinavian (Norwegians, Danes, and Swedes)	141	378	33	5	19	88	49	315	4	328	149	412	36	92	31	24	23	75	41	16
Scotch	923	50	8	40	39	89	8	11	15	32	205	58	9	9	68	2	6	5	207	6
Slovak	99	14	.....	.....	1	2	26	11	.....	159	4	117	36	22	2	2	.....	3	14	10
Spanish	23	5	4	.....	.....	3	2	5	.....	9	51	10	1	.....	1	348	1	2	1	.....
Spanish-American	5	2	1	.....	.....	1	.....	2	.....	2	1	2	.....	.....	.....	2	.....	.....	.....	.....
Syrian	6	7	3	1	.....	7	3	18	.....	121	9	68	14	3	7	4	.....	3	62	1
Turkish	1	.....	2	2	.....	1	.....	.....	.....	11	1	30	1	.....	.....	1	.....	.....	4	.....
Welsh	407	3	.....	7	3	.....	.....	1	.....	1	7	6	.....	12	2	.....	1	1	2	1

Race or people.	Wood workers (not specified).	Other skilled.	Total skilled.	Agents.	Bankers.	Draymen, hackmen, and teamsters.	Farmers.	Farm laborers.	Fishermen.	Hotel keepers.	Laborers.	Manufacturers.	Merchants and dealers.	Servants.	Other miscellaneous.	Total miscellaneous.	No occupation (including all children under 14 years of age).	Grand total.
West Indian	1	8	3	.....	2	8	4	79	1	17	.....	7	.....	.....	1	10	.....	1	.....	1
All other peoples	4	.....	2	.....	.....	.....	.....	.....	.....	3	.....	5	1	.....	.....	.....	.....	.....	1	.....
Grand total	9,110	3,868	358	196	371	980	721	5,096	31	10,567	1,839	23,580	780	1,509	796	2,664	431	953	2,917	273
African (black)	5	3	789	1	.....	.....	7	75	3	.....	368	.....	27	496	14	991	536		2,336	
Armenian	.....	16	603	1	1	1	1	127	.....	2	224	3	75	179	2	616	490		1,745	
Bohemian and Moravian	47	74	3,043	.....	8	4	148	592	1	4	1,255	19	62	1,951	7	4,051	4,697		11,911	
Bulgarian, Servian, and Montenegrin	4	6	183	1	.....	.....	2	615	.....	1	3,483	.....	20	60	2	4,184	195		4,577	
Chinese	1	7	42	.....	.....	1	8	19	1	8	791	1	2,756	282	80	3,897	334		4,327	
Croatian and Slovenian	15	25	1,519	3	1	.....	38	2,881	8	4	12,602	3	28	1,583	4	17,105	2,598		21,242	
Cuban	2	3	1,574	5	1	2	12	7	.....	1	68	18	427	806	49	891	2,121		4,811	
Dalmatian, Bosnian, and Herzegovinian	2	1	486	1	.....	1	3	556	25	1	785	.....	4	66	1	1,443	102		2,036	
Dutch and Flemish	20	66	1,458	16	19	6	242	753	11	8	902	27	261	470	97	2,812	3,295		7,832	
East Indian	.....	.....	8	.....	1	.....	.....	4	.....	.....	7	1	38	37	1	89	32		258	
English	77	855	11,333	290	200	68	499	432	64	66	1,913	422	1,853	3,686	1,001	10,439	16,797		41,479	
Filipino	.....	.....	5	.....	.....	.....	.....	.....	.....	.....	1	.....	6	8	.....	15	9		29	
Finnish	1	14	828	1	.....	.....	27	173	8	1	3,755	6	21	2,564	6	6,562	2,710		10,157	
French	15	153	2,758	46	34	15	185	482	.....	24	601	73	596	1,428	91	3,475	4,301		11,557	
German	215	477	15,780	50	24	36	1,181	3,488	21	97	9,358	220	3,498	10,487	252	28,707	27,771		74,790	
Greek	9	24	1,808	3	2	3	43	3,225	24	22	5,357	6	345	631	36	9,697	1,031		12,625	
Hebrew	271	857	45,109	26	7	33	65	296	9	18	8,371	74	3,464	9,292	144	21,799	38,485		106,286	
Irish	29	182	4,246	38	10	35	336	1,522	16	47	8,927	29	304	15,788	392	27,444	4,816		37,076	
Italian (north)	22	118	6,408	8	6	57	260	5,154	12	25	13,526	30	582	2,731	79	22,470	7,329		36,699	
Italian (south)	143	262	24,247	10	14	212	289	42,471	279	19	42,502	59	1,308	10,060	155	97,378	36,988		159,329	
Japanese	11	35	641	3	5	3	121	6,775	38	86	1,474	28	1,184	317	90	10,124	3,244		14,382	
Korean	.....	.....	1	.....	.....	.....	.....	1,613	.....	.....	9	.....	13	9	.....	1,644	258		1,907	
Lithuanian	4	22	831	.....	.....	1	8	400	3	.....	6,941	1	9	2,107	1	9,471	2,462		12,780	
Magyar	34	60	2,133	2	1	4	60	3,345	1	7	9,169	22	141	3,316	13	16,081	5,405		23,883	
Mexican	.....	.....	174	1	.....	.....	3	.....	.....	1	12	1	49	46	4	117	123		447	
Pacific Islander	.....	.....	7	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	2	.....	3	2		12	
Polish	57	74	3,811	2	.....	4	68	2,007	6	4	34,824	23	95	11,938	10	48,981	14,829		67,757	
Portuguese	3	10	409	5	.....	.....	31	534	67	.....	1,894	.....	107	1,076	1	3,715	2,188		6,338	
Roumanian	4	3	236	1	1	.....	3	398	1	.....	3,259	1	32	107	.....	3,808	302		4,364	
Russian	2	12	543	1	2	.....	13	71	.....	.....	1,895	7	126	284	4	2,403	896		3,961	
Ruthenian (Russniak)	4	2	191	.....	.....	1	4	650	.....	.....	5,813	.....	3	1,810	.....	8,281	1,111		9,592	
Scandinavian (Norwegians, Danes, and Swedes)	63	241	11,749	35	8	23	490	3,724	213	19	14,668	31	307	15,088	170	34,776	13,720		61,029	
Scotch	43	319	4,129	43	23	24	145	152	2	9	385	108	334	1,011	256	2,492	4,326		11,483	
Slovak	16	27	1,191	.....	.....	.....	73	2,366	1	1	13,165	5	15	4,628	1	20,250	6,479		27,940	

TABLE VIII.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Race or people.	Wood workers (not specified).	Other skilled.	Total skilled.	Agents.	Bankers.	Draymen, hackmen, and teamsters.	Farmers.	Farm laborers.	Fishermen.	Hotel keepers.	Laborers.	Manufacturers.	Merchants and dealers.	Servants.	Other miscellaneous.	Total miscellaneous.	No occupation including all children under 14 years of age).	Grand total.
Spanish	4	16	1,648	18	8	.....	65	240	1	7	416	31	729	255	43	1,813	949	4,662
Spanish-American	.....	4	141	10	1	1	42	11	.....	1	36	.....	296	76	12	486	843	1,666
Syrian	.....	15	689	4	.....	4	28	497	.....	2	570	1	331	325	5	1,767	1,169	3,653
Turkish	.....	1	135	2	.....	.....	7	238	.....	1	819	5	113	32	4	1,221	101	1,482
Welsh	.....	35	705	4	.....	.....	25	33	.....	3	94	6	23	149	29	366	672	1,820
West Indian	4	5	476	4	2	.....	38	15	.....	2	44	3	191	240	21	560	785	1,942
All other peoples	.....	3	74	.....	.....	.....	7	9	1	.....	152	1	75	51	7	303	191	668
Grand total	1,127	4,027	152,191	635	379	534	4,507	85,850	816	491	210,426	1,265	19,848	104,987	3,034	432,722	214,692	812,870

TABLE IX.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, SHOWING THEIR DESTINATONS AND OCCUPATIONS.

Destination.	Actors.	Architects.	Clergy.	Editors.	Electricians.	Engineers (professional).	Lawyers.	Literary and scientific persons.	Musicians.	Officials (government).	Physicians.	Sculptors and artists.	Teachers.	Other professional.	Total professional.	Bakers.	Barbers and hairdressers.	Blacksmiths.	Bookbinders.	Brewers.
Alabama	.....	1	2	.....	.....	9	.....	2	1	3	1	.....	.....	.....	19	7	3	6	.....	.....
Alaska	.....	.....	4	.....	.....	4	.....	.....	.....	.....	.....	.....	1	.....	9	.....	.....	.....	.....	.....
Arizona	.....	.....	9	.....	.....	6	.....	.....	3	.....	.....	.....	.....	.....	18	1	.....	6	.....	.....
Arkansas	.....	.....	4	1	.....	1	2	.....	.....	.....	1	.....	.....	.....	9	1	1	1	.....	.....
California	33	12	79	22	14	106	30	30	40	91	72	34	91	6	660	126	33	86	9	8
Colorado	1	.....	8	2	1	18	3	2	3	6	3	3	5	.....	55	11	3	20	1	1
Connecticut	3	4	10	1	6	20	1	3	10	1	3	10	35	2	109	82	38	100	8	4
Delaware	.....	1	5	.....	.....	.....	.....	.....	1	.....	.....	.....	2	.....	9	8	1	3	.....	.....
District of Columbia	2	2	16	3	4	16	8	2	3	72	12	.....	17	2	159	12	11	1	3	.....
Florida	26	3	7	3	.....	12	3	2	4	10	18	4	15	.....	107	22	33	6	2	2
Georgia	.....	1	2	2	.....	3	1	1	3	2	1	.....	1	.....	17	2	1	3	1	.....
Hawaii	.....	2	16	1	.....	7	2	6	1	5	16	2	7	.....	65	2	2	5	.....	.....
Idaho	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2	2	.....	1	.....	.....
Illinois	14	29	62	16	34	96	5	20	73	12	42	41	102	5	551	316	130	342	40	35
Indiana	3	1	4	1	1	6	.....	1	5	1	3	6	17	1	50	11	4	21	4	2
Indian Territory	.....	.....	2	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	3	.....	.....	4	.....	.....
Iowa	1	.....	10	2	2	7	1	.....	3	3	6	.....	18	.....	48	30	5	66	6	4
Kansas	.....	1	3	.....	.....	2	.....	.....	.....	1	.....	.....	47	.....	54	7	.....	9	.....	1
Kentucky	.....	.....	9	.....	.....	2	.....	.....	1	.....	2	1	3	.....	18	3	.....	4	.....	2
Louisiana	56	1	30	11	2	18	14	4	8	17	8	7	21	.....	197	13	26	6	4	.....
Maine	1	2	6	1	1	.....	.....	1	4	1	.....	.....	4	.....	21	8	2	10	2	.....
Maryland	2	8	11	3	3	20	4	3	19	2	13	4	31	6	129	71	36	42	6	11
Massachusetts	40	22	77	16	39	116	15	34	112	27	36	44	196	3	777	281	256	278	51	9
Michigan	6	6	16	3	8	30	.....	13	8	1	4	7	25	.....	127	78	23	74	3	4
Minnesota	1	5	28	.....	3	15	3	1	11	5	7	1	26	.....	106	63	14	100	6	8
Mississippi	.....	.....	2	.....	.....	2	.....	.....	.....	1	1	1	1	.....	8	2	4	2	.....	1
Missouri	198	78	23	87	22	128	36	38	144	229	37	92	71	34	1,207	101	44	74	10	25
Montana	.....	.....	1	.....	1	4	.....	3	1	.....	1	.....	4	.....	15	9	1	10	.....	1
Nebraska	.....	.....	12	.....	.....	4	.....	1	2	.....	5	.....	5	.....	29	11	5	25	1	3
Nevada	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	6	.....	.....
New Hampshire	.....	2	4	.....	.....	2	.....	3	.....	.....	.....	1	5	.....	17	6	1	7	.....	.....
New Jersey	14	24	45	5	25	69	6	13	47	13	25	14	71	4	375	200	208	224	24	12
New Mexico	.....	.....	3	.....	.....	2	.....	.....	.....	1	.....	.....	.....	.....	6	2	.....	2	.....	1
New York	635	222	376	188	181	1,048	221	223	696	413	446	578	821	63	6,106	2,302	1,937	1,487	459	113
North Carolina	.....	.....	2	.....	.....	1	.....	1	1	3	.....	.....	2	.....	10	1	.....	1	.....	.....
North Dakota	.....	2	5	.....	1	2	.....	.....	1	.....	1	.....	11	.....	23	8	8	42	1	.....
Ohio	21	10	38	3	9	57	5	6	29	7	12	17	51	2	267	128	75	211	12	28
Oklahoma	.....	1	7	.....	.....	.....	.....	.....	1	1	.....	.....	.....	.....	10	.....	.....	1	.....	.....
Oregon	2	.....	6	1	.....	7	.....	1	1	.....	.....	.....	1	.....	19	9	5	13	.....	3

TABLE IX.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Destination.	Actors.	Architects.	Clergy.	Editors.	Electricians.	Engineers (professional).	Lawyers.	Literary and scientific persons.	Musicians.	Officials (government).	Physicians.	Sculptors and artists.	Teachers.	Other professional.	Total professional.	Bakers.	Barbers and hairdressers.	Blacksmiths.	Bookbinders.	Brewers.
Pennsylvania	28	48	115	15	25	209	22	41	141	29	75	31	154	26	959	482	312	707	79	47
Porto Rico	24	1	28	2	3	20	20	4	2	12	10	8	9	.....	143	10	4	3	.....	.....
Rhode Island	1	5	10	2	2	13	3	3	7	1	2	6	13	1	69	37	41	53	4	2
South Carolina	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	2	.....	.....
South Dakota	.....	.....	3	.....	.....	2	.....	.....	3	.....	2	.....	11	.....	21	8	2	21	.....	.....
Tennessee	.....	.....	1	.....	.....	3	.....	.....	1	.....	2	.....	7	.....	14	3	3	1	.....	.....
Texas	16	2	25	3	.....	18	1	3	4	1	9	.....	13	1	96	14	8	23	.....	3
Utah	.....	.....	8	2	1	10	2	.....	2	.....	.....	.....	5	1	31	5	4	19	1	.....
Vermont	1	1	3	.....	.....	1	.....	1	1	.....	.....	8	2	.....	18	5	1	7	.....	.....
Virginia	.....	4	1	1	.....	5	.....	1	1	2	.....	.....	11	1	27	8	2	7	.....	.....
Washington	5	5	9	8	5	24	2	2	9	10	11	1	14	1	106	19	14	37	4	3
West Virginia	.....	1	3	.....	.....	6	.....	.....	1	2	.....	.....	1	1	15	3	2	22	.....	.....
Wisconsin	3	4	19	.....	5	16	5	6	8	3	3	3	18	3	96	62	14	98	6	24
Wyoming	.....	.....	2	.....	.....	3	.....	.....	.....	1	.....	1	.....	.....	7	5	.....	3	.....	1
Tourists	32	1	21	10	.....	54	33	9	3	40	17	7	22	1	250	1	.....	1	.....	3
Total	1,169	507	1,193	410	398	2,226	448	479	1,419	1,080	907	932	1,983	164	13,265	4,599	3,866	4,308	747	356

Destination.	Butchers.	Cabinet makers.	Carpenters and joiners.	Clerks and accountants.	Dressmakers.	Engineers (stationary) and firemen.	Engravers.	Furriers and fur workers.	Gardeners.	Hat and cap makers.	Ironworkers.	Jewelers.	Locksmiths.	Machinists.	Mariners.	Masons.	Mechanics (not specified).	Metalworkers (other than iron, steel, and tin).	Millers.	Milliners.
Alabama	4	.....	10	23	4	20	.....	.....	1	2	4	.....	.....	5	73	9	.....	.....	3	....
Alaska	.....	.....	1	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	.....	.....	....
Arizona	3	.....	12	6	.....	5	.....	.....	1	.....	5	1	.....	4	2	6	.....	.....	1	....
Arkansas	1	.....	3	5	.....	2	.....	.....	.....	.....	1	.....	.....	1	.....	7	2	.....	.....	....
California	65	10	349	361	104	144	4	3	81	5	45	8	20	55	1,152	237	35	19	25	9
Colorado	14	1	46	35	19	15	.....	.....	7	.....	10	4	6	7	38	39	2	3	1	....
Connecticut	57	14	249	124	84	21	1	6	26	9	52	2	50	37	140	229	24	25	10	7
Delaware	1	2	15	3	2	3	.....	.....	1	1	4	.....	1	3	7	20	2	1	.....	1
District of Columbia	4	.....	13	29	9	2	.....	2	5	3	2	3	4	1	5	12	2	1	.....	2
Florida	23	.....	45	420	13	10	.....	.....	5	2	5	.....	.....	3	209	15	5	1	1	....
Georgia	2	1	4	11	2	1	.....	.....	2	1	1	.....	.....	1	12	3	1	2	.....	....
Hawaii	.....	.....	14	18	.....	3	.....	.....	2	.....	.....	.....	.....	.....	.....	1	2	.....	.....	....

Idaho	4		7	9	2	2			1		1			1	6	1			3	
Illinois	451	58	908	727	212	126	9	9	92	40	218	18	288	137	248	409	69	49	65	15
Indiana	20	2	30	34	12	11	1		6		26	2	17	11	5	33	4	6	5	1
Indian Territory			5			1			1						1	9				
Iowa	42	3	120	61	15	14			14		12		11	8	32	45	5	8	15	2
Kansas	8	2	32	31	4	8			5		5		10	5	1	21	2	1	4	
Kentucky	3	1	7	15	2	2	1	1	1	1	1	1	2		1	4	1	1	1	
Louisiana	6	3	37	61	16	27			42		8	1	1	7	148	34	9	1	3	1
Maine	4	3	24	12	6	9			1		8	1		8	40	20	2	2	1	1
Maryland	81	5	185	101	20	23	1	3	6	19	12	2	77	27	85	92	10	7	14	2
Massachusetts	209	93	757	615	384	132	11	9	112	74	264	36	106	165	856	392	86	69	37	18
Michigan	57	25	209	124	36	39		1	46		42	1	25	47	103	98	16	6	18	1
Minnesota	60	8	348	180	53	26		2	23	5	34	1	21	40	108	97	23	5	18	2
Mississippi	3		1	8	4				1		1				11	2	1		2	
Missouri	102	21	384	414	62	173	4	4	58	14	38	21	90	40	71	104	29	16	23	2
Montana	8		24	8	2	9	1		2		4		2	3	11	25	1	1	2	
Nebraska	31	1	85	40	13	12			13	2	10	1	12	5	9	48	5	3	18	1
Nevada	3		13	2	1	1							3		3	6				
New Hampshire	10		25	21	11	4	1	2	6		6	1	2	5	8	26	5	1		
New Jersey	187	33	679	401	184	91	7	9	80	47	162	23	158	101	369	338	75	66	46	11
New Mexico	1		3	3		1					1	2				2			2	
New York	1,665	512	5,842	4,687	2,108	1,234	59	405	406	496	652	244	1,842	690	5,120	2,578	527	543	260	166
North Carolina	4		2	2		2			1		1			1	2					
North Dakota	17		103	48	9	4		1	6	3	4	4	3	7	36	23	5	2	3	
Ohio	162	19	498	211	82	44	3	8	45	21	165	2	200	50	80	284	26	24	55	5
Oklahoma	1			4					1				1		1	4			1	1
Oregon	5		42	28	8	5		1	13				4	4	74	16	5			
Pennsylvania	441	104	1,548	766	472	243	11	37	134	102	524	23	576	197	509	1,258	132	109	174	83
Porto Rico			12	207		3				5	3		1	3	15	2	10	1		
Rhode Island	16	3	116	80	50	32	1	2	13	7	54	19	11	26	87	59	19	12	6	7
South Carolina	1		1	4											5					
South Dakota	12		47	27	2	3		1			6		1	2	26	13	2		6	
Tennessee	3		8	16	3	1		1	1		1		2	4	1	6	1		1	
Texas	10	1	49	79	3	7			10	1	3	1	25	18	43	19	5	2	7	
Utah	1	2	26	26	22	4	3		5		6		3	4	3	16	5	2	1	1
Vermont	3		11	9	8		1		2		6		7	2	6	43	4		3	
Virginia	1	1	11	18	7	9			5		9		2	14	22	8	2	1	1	
Washington	20	1	132	90	21	21	2		12		12	7	7	41	386	20	11	13	7	
West Virginia	5		28	14	3	5			2		5		9	4	13	94	4		4	
Wisconsin	60	9	269	152	36	24	2	2	26	3	42	1	58	25	138	93	20	14	22	2
Wyoming	4		14	7	1						1		2	3	2	5				
Tourists	6		1	38		27			7		2			2	4	1		1		2
Philippine Islands				1																
Total	3,901	988	13,404	10,420	4,112	2,606	128	509	1,330	863	2,478	430	3,160	1,829	10,326	6,921	1,196	1,018	869	293

TABLE IX.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Destination.	Miners.	Painters and glaziers.	Photographers.	Plasterers.	Plumbers.	Printers.	Saddlers and harness makers.	Seamstresses.	Shipwrights.	Shoemakers.	Stonecutters.	Tailors.	Tanners and curriers.	Tinners.	Textile workers (not specified).	Tobacco workers.	Upholsterers.	Watch and clock makers.	Weavers and spinners.	Wheelwrights.
Alabama	77	2	.....	.....	.....	.....	.....	1	.....	10	1	7	.....	.....	1	.....	.....	.....	1	.....
Alaska	21	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Arizona	112	1	.....	.....	1	.....	.....	1	.....	1	4	2	.....	.....	.....	1	.....	1	.....	.....
Arkansas	39	.....	.....	.....	.....	.....	.....	3	.....	4	1	6	.....	.....	.....	1	.....	.....	1	.....
California	329	57	26	10	15	37	11	61	4	121	41	160	16	6	28	14	7	14	21	3
Colorado	285	8	2	.....	2	3	.....	12	.....	15	9	17	1	1	1	.....	1	3	6	.....
Connecticut	57	53	5	2	5	15	12	99	1	297	41	364	9	23	10	13	1	34	122	2
Delaware	5	3	.....	2	.....	2	1	3	.....	17	.....	14	3	1	2	.....	.....	.....	1	.....
District of Columbia	2	5	2	.....	1	7	3	8	.....	29	3	39	2	1	1	.....	.....	5	3	1
Florida	3	12	2	1	.....	6	.....	29	.....	36	.....	32	.....	.....	1	1,778	.....	.....	.....	.....
Georgia	3	2	.....	.....	.....	.....	.....	1	.....	6	7	12	1	2	1	2	.....	2	.....	.....
Hawaii	.....	1	2	.....	.....	1	.....	.....	1	.....	1	5	.....	1	.....	.....	.....	.....	.....	.....
Idaho	22	1	2	.....	1	.....	1	4	.....	2	.....	1	.....	.....	1	.....	.....	1	2	.....
Illinois	1,010	205	16	8	23	69	74	294	.....	548	63	1,058	72	117	19	28	34	66	88	32
Indiana	169	13	.....	.....	1	3	4	11	.....	26	6	33	1	6	.....	2	3	3	12	1
Indian Territory	62	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Iowa	121	20	2	2	5	5	5	38	.....	48	12	52	4	5	4	3	2	3	9	5
Kansas	294	3	2	.....	.....	1	1	6	.....	14	7	30	.....	.....	.....	.....	.....	.....	8	2
Kentucky	12	3	.....	.....	2	1	1	5	.....	7	3	17	.....	1	.....	2	.....	1	3	.....
Louisiana	6	7	1	.....	1	1	3	9	1	146	4	27	.....	2	5	.....	.....	1	2	1
Maine	15	6	.....	.....	.....	1	1	6	.....	22	14	33	2	3	18	.....	.....	3	37	.....
Maryland	60	55	2	1	3	11	10	54	.....	126	34	455	10	23	1	10	6	10	12	4
Massachusetts	170	246	15	25	40	58	48	329	2	917	225	1,534	63	77	155	156	30	56	765	9
Michigan	410	47	3	4	8	14	16	28	.....	116	17	104	3	10	5	8	8	3	21	7
Minnesota	95	70	4	1	8	15	4	60	.....	108	27	178	7	19	4	4	3	13	9	11
Mississippi	7	1	.....	.....	.....	.....	1	2	.....	5	.....	4	.....	.....	.....	.....	.....	.....	.....	.....
Missouri	172	149	11	9	11	31	25	34	.....	122	18	236	5	31	14	4	22	20	28	17
Montana	106	3	1	.....	1	2	1	4	.....	13	1	5	1	3	1	1	.....	.....	1	1
Nebraska	30	14	.....	.....	2	3	7	11	1	36	5	58	4	7	4	3	.....	3	11	5
Nevada	12	1	1	.....	.....	.....	.....	1	.....	3	4	1	.....	.....	1	.....	.....	.....	.....	.....
New Hampshire	7	3	1	.....	.....	2	2	2	.....	37	13	22	1	2	12	1	.....	.....	45	.....
New Jersey	124	161	16	8	13	44	36	256	2	571	72	802	52	52	63	18	18	45	315	15
New Mexico	17	.....	.....	.....	.....	1	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....
New York	600	2,111	196	91	139	445	308	2,948	8	4,891	603	14,817	318	796	255	487	237	525	688	64
North Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....
North Dakota	16	29	1	.....	.....	5	7	5	.....	19	7	21	2	4	.....	.....	2	1	3	2
Ohio	508	86	3	3	11	14	29	114	.....	308	37	466	25	62	14	8	11	26	52	17
Oklahoma	.....	.....	.....	.....	.....	.....	1	1	.....	.....	1	2	.....	.....	.....	.....	.....	.....	1	.....
Oregon	18	6	1	1	2	1	.....	3	.....	18	3	19	.....	2	4	.....	.....	1	4	.....
Pennsylvania	3,273	334	17	24	48	86	89	439	3	1,527	301	2,464	94	196	114	94	35	83	375	47

Destination.	Wood workers (not specified).	Other skilled.	Total skilled.	Agents.	Bankers.	Draymen, hackmen, and teamsters.	Farmers.	Farm laborers.	Fishermen.	Hotel keepers.	Laborers.	Manufacturers.	Merchants and dealers.	Servants.	Other miscellaneous.	Total miscellaneous.	No occupation (including all children under 14 years of age).	Grand total.
Porto Rico	.....	3	3	.....	.....	2	.....	9	.....	19	.....	7	.....	4	.....	3	.....	2	.....	.....
Rhode Island	20	30	6	.....	3	9	5	49	.....	124	20	138	5	13	36	9	4	4	196	1
South Carolina	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	3	2	1	.....	.....	.....	.....	.....	.....	.....
South Dakota	40	6	1	.....	.....	.....	.....	14	.....	18	3	6	2	.....	.....	.....	1	.....	5	6
Tennessee	26	.....	2	.....	.....	.....	.....	4	.....	8	1	6	.....	.....	.....	1	.....	1	1	1
Texas	59	10	1	.....	1	8	1	9	.....	21	6	30	.....	2	2	2	.....	3	10	2
Utah	135	7	.....	.....	3	5	.....	19	.....	14	2	10	1	4	10	.....	2	1	17	1
Vermont	22	5	.....	.....	.....	.....	.....	4	.....	9	178	18	.....	.....	2	1	.....	.....	5	2
Virginia	17	5	.....	1	2	1	.....	8	.....	17	.....	36	1	3	3	.....	.....	1	.....	.....
Washington	253	20	4	2	11	11	1	23	3	30	14	61	2	6	8	1	.....	5	9	1
West Virginia	246	4	1	.....	1	1	2	3	.....	36	12	29	1	5	.....	.....	.....	.....	.....	2
Wisconsin	33	56	6	.....	6	8	16	71	5	102	20	138	18	21	4	3	4	18	23	11
Wyoming	50	1	.....	1	1	.....	.....	.....	.....	2	.....	3	.....	.....	.....	.....	.....	.....	4	.....
Tourists	.....	3	.....	.....	.....	1	.....	.....	.....	.....	.....	2	3	.....	.....	.....	.....	.....	.....	.....
Total	9,110	3,868	358	196	371	930	721	5,096	31	10,567	1,839	23,580	730	1,509	796	2,664	431	953	2,917	273
Alabama	.....	9	283	2	.....	.....	10	68	2	1	165	.....	47	65	7	367	427	1,096
Alaska	.....	.....	31	.....	1	.....	.....	9	1	9	45	2	8	8	1	79	16	135
Arizona	.....	.....	177	8	.....	.....	4	58	.....	1	123	.....	22	25	4	245	105	545
Arkansas	.....	.....	80	1	.....	.....	8	42	.....	.....	141	.....	5	30	.....	227	172	488
California	32	89	4,090	36	38	14	487	3,285	51	69	5,428	55	2,865	2,141	173	14,642	6,542	25,984
Colorado	5	11	615	2	2	7	72	589	2	1	1,002	4	38	428	29	2,176	1,124	3,970
Connecticut	18	98	2,725	7	1	18	56	1,835	4	3	5,405	12	152	3,344	30	10,867	4,825	18,526
Delaware	.....	1	134	1	.....	1	5	209	.....	1	434	2	6	157	2	818	232	1,198
District of Columbia	1	9	248	3	2	.....	3	62	1	1	182	1	48	194	8	505	464	1,376
Florida	2	9	2,738	9	4	4	26	126	7	5	257	41	227	628	12	1,346	2,018	6,209
Georgia	.....	5	95	1	2	.....	2	18	.....	1	68	.....	38	50	4	179	158	449
Hawaii	2	5	68	1	1	1	10	7,006	5	1	166	2	353	57	9	7,612	1,363	9,108
Idaho	2	10	90	.....	.....	1	18	65	.....	1	106	.....	6	57	6	260	99	451
Illinois	74	206	9,115	25	13	23	357	5,329	34	31	16,200	55	685	8,788	186	31,676	16,115	57,457
Indiana	3	50	615	1	.....	1	23	396	3	4	1,507	4	50	419	11	2,419	1,318	4,402
Indian Territory	.....	.....	85	.....	.....	1	1	47	.....	.....	153	3	1	40	.....	246	88	422
Iowa	9	19	891	2	.....	5	174	759	6	1	1,396	6	63	964	18	3,384	1,773	6,096
Kansas	2	4	530	2	.....	.....	70	241	.....	2	533	2	24	278	9	1,161	1,213	2,958
Kentucky	2	5	123	1	.....	.....	5	30	.....	.....	49	2	16	71	1	175	242	558
Louisiana	4	11	681	12	10	17	30	537	37	1	1,308	7	362	341	32	2,694	1,664	5,236
Maine	.....	33	358	3	1	2	5	155	4	.....	519	1	25	281	8	1,004	518	1,901
Maryland	19	46	1,890	4	1	.....	18	244	8	2	1,455	7	158	756	26	2,679	2,149	6,847

TABLE IX.—REPORT OF ALIENS ADMITTED TO THE UNITED STATES FOR THE YEAR ENDING JUNE 30, 1904, ETC.—Continued.

Destination.	Wood workers (not specified.)	Other skilled.	Total skilled.	Agents.	Bankers.	Draymen, hackmen, and teamsters.	Farmers.	Farm laborers.	Fishermen.	Hotel keepers.	Laborers.	Manufacturers.	Merchants and dealers.	Servants.	Other miscellaneous.	Total miscellaneous.	No occupation (including all children under 14 years of age.)	Grand total.
Massachusetts	86	378	10,683	45	18	42	139	5,024	55	27	15,080	69	743	11,071	225	32,538	14,413	58,411
Michigan	16	49	1,973	7	1	9	146	1,195	24	5	4,785	11	109	1,901	21	8,214	5,256	15,570
Minnesota	17	56	1,963	7	2	6	259	1,339	57	4	4,755	8	91	2,972	37	9,537	4,829	16,425
Mississippi	.....	1	64	.....	1	1	4	59	3	1	89	.....	11	39	1	209	259	540
Missouri	21	96	3,000	42	15	15	106	1,043	17	22	2,884	129	1,098	1,270	382	7,023	8,667	14,897
Montana	2	2	273	1	.....	1	44	235	4	2	546	.....	27	202	81	1,098	370	1,751
Nebraska	7	18	583	1	.....	2	127	382	4	.....	746	5	27	569	9	1,872	1,411	3,895
Nevada	.....	.....	63	.....	.....	.....	25	241	.....	2	252	.....	3	39	16	578	87	729
New Hampshire	.....	11	309	.....	1	1	6	113	.....	.....	669	3	19	401	5	1,218	361	1,906
New Jersey	56	249	6,723	17	6	25	109	4,688	19	17	11,355	33	440	7,081	92	23,882	10,800	41,780
New Mexico	.....	.....	41	1	.....	.....	15	45	.....	.....	114	.....	5	26	2	208	92	347
New York	509	1,514	68,378	258	192	209	805	23,583	188	174	47,721	568	9,303	34,916	1,084	118,946	69,720	263,150
North Carolina	.....	2	21	.....	.....	.....	1	3	.....	.....	16	.....	4	13	1	38	43	112
North Dakota	3	9	478	3	.....	2	157	627	34	1	1,341	1	16	809	5	2,996	2,070	5,562
Ohio	36	141	4,399	12	3	11	131	3,373	6	5	12,265	33	219	3,358	54	19,470	8,941	33,077
Oklahoma	.....	1	22	.....	.....	.....	14	31	.....	.....	36	.....	3	13	1	98	160	290
Oregon	2	6	316	1	1	1	60	326	22	4	456	6	75	257	13	1,222	595	2,152
Pennsylvania	141	593	19,891	42	15	71	373	17,481	28	26	57,871	90	973	15,264	310	92,544	38,584	146,478
Porto Rico	1	5	337	11	4	.....	60	50	.....	4	79	6	383	68	12	677	538	1,695
Rhode Island	13	100	1,542	6	.....	14	15	718	5	1	1,754	6	99	1,384	22	4,024	2,544	8,179
South Carolina	.....	.....	23	.....	.....	.....	2	10	1	.....	16	1	4	12	.....	46	25	95
South Dakota	4	8	293	.....	.....	1	77	346	10	.....	699	1	7	507	3	1,651	1,125	3,090
Tennessee	1	2	110	6	2	.....	4	52	3	1	138	1	30	45	1	283	190	597
Texas	1	11	510	22	14	4	48	179	3	6	375	2	135	251	36	1,075	1,116	2,797
Utah	2	13	405	2	.....	3	35	145	2	2	443	1	24	178	16	851	656	1,943
Vermont	.....	3	362	.....	.....	1	7	148	1	.....	542	.....	12	187	2	900	369	1,649
Virginia	.....	6	229	2	1	1	11	84	.....	2	253	1	30	74	5	464	369	1,089
Washington	11	31	1,387	2	2	8	112	1,001	78	38	2,731	11	441	774	28	5,221	1,920	8,634
West Virginia	5	12	577	.....	.....	1	17	1,103	1	.....	2,167	4	10	291	4	3,598	1,061	5,251
Wisconsin	18	80	1,858	4	.....	9	169	1,111	91	9	3,335	9	105	1,724	19	6,585	4,437	12,976
Wyoming	.....	3	118	1	1	1	14	58	.....	.....	257	1	4	97	20	454	191	765
Tourists	.....	12	117	21	24	.....	31	2	.....	3	14	64	203	32	51	445	866	1,678
Philippine Islands	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	1	2	4
Total	1,127	4,027	152,191	635	379	534	4,507	85,850	816	491	210,426	1,265	19,848	104,987	3,034	432,722	214,692	812,870

See chart 3.

CHART 3.

FOR DESCRIPTION SEE PAGES 889-893

BUREAU OF IMMIGRATION
F. P. SARGENT COMMISSIONER-GENERAL.

PROPORTION OF IMMIGRATION AND NUMBER OF IMMIGRANTS GOING TO EACH STATE DURING THE FISCAL YEAR ENDING JUNE 30, 1904.

NORTH ATLANTIC DIVISION 541,979-67%
NORTH CENTRAL DIVISION 176,405-22%
WESTERN DIVISION 47,221-6%
SOUTH ATLANTIC DIVISION 22,621-3%
SOUTH CENTRAL DIVISION 12,024-1%
PORTO RICO, HAWAII AND ALASKA 10,938-1%

TOTAL 812,870

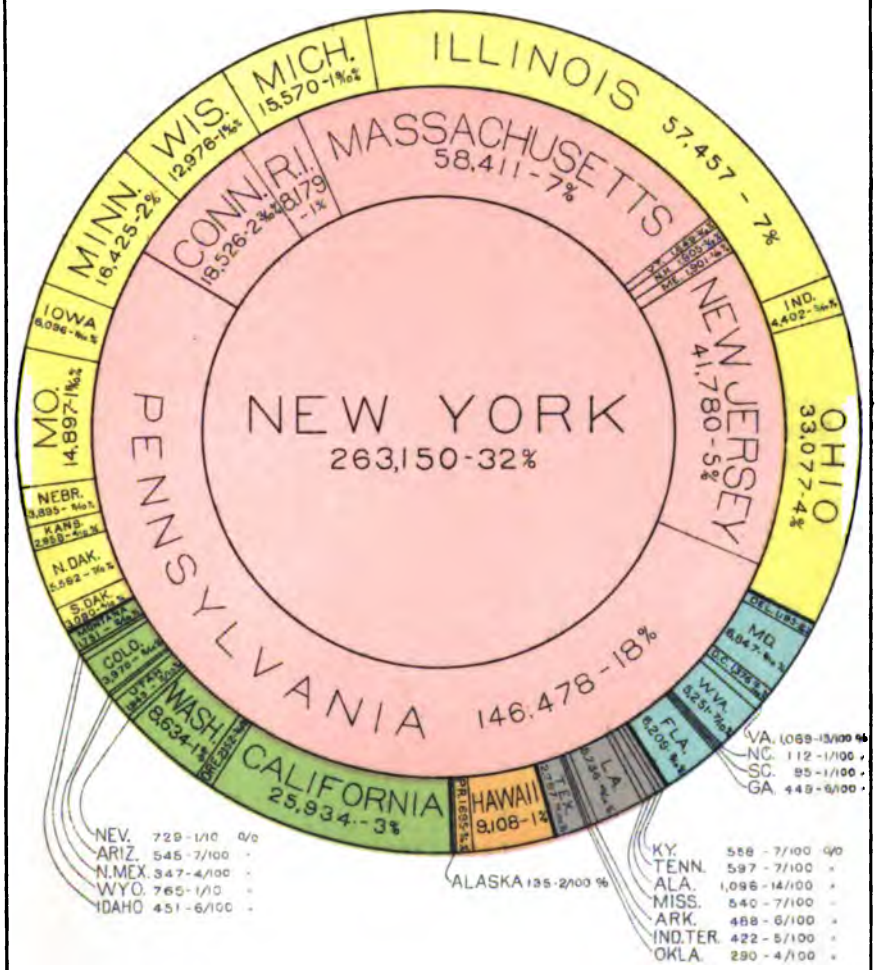


Table X gives the arrivals in the United States from the foreign countries whence they respectively came, of all aliens during each year since 1857 arranged in the form of reports of alien passengers issued prior to the organization of the Bureau.

TABLE X.—NUMBER AND NATIONALITIES OF IMMIGRANTS ARRIVED IN THE UNITED STATES FROM 1857 TO 1904, INCLUSIVE.

Country.	1857.	1858.	1859.	1860.	1861.	1862.	1863.
Austria-Hungary					13	78	93
Belgium	1,011	160	137	30	100	124	136
Denmark	762	490	470	527	154	1,565	1,473
France	4,441	2,747	2,772	3,080	3,389	2,898	2,314
German Empire	86,407	69,586	46,635	43,946	52,116	23,811	29,741
Italy	1,046	1,414	1,051	920	954	621	514
Netherlands	986	1,201	168	342	369	339	349
Norway	1						20
Portugal	116	208	85	88	92	22	104
Russian Empire and Finland	74	108	314	156	129	134	135
Spain	637	922	1,454	974	804	381	336
Sweden	881	2,645	1,850	629	287	1,021	1,179
Switzerland	1,713	1,671	866	676	1,243	587	696
United Kingdom:							
England	27,060	21,013	15,188	12,838	13,207	7,659	13,615
Ireland	59,870	41,500	34,410	40,547	43,351	16,800	36,545
Scotland	3,833	3,202	1,981	1,995	1,244	730	954
Wales	601	492	320	547	554	366	632
Europe, not specified	20,191	16,823	11,884	12,633	13,771	7,055	33,432
Total Europe	209,130	164,177	119,585	119,928	131,777	64,191	122,268
China	4,524	7,183	3,215	6,117	6,094	4,174	5,280
Other Asia	4	5	1	8	14	7	9
Total Asia	4,528	7,188	3,216	6,125	6,108	4,181	5,289
Africa	26	8	20	119	48	8	12
British North America	6,068	5,360	4,544	4,412	3,221	2,538	3,388
Central America	277	11	5	7	9	31	8
Mexico	401	342	301	243	207	197	101
South America	85	130	116	204	148	90	139
West Indies	808	922	718	1,158	853	543	575
All other countries	9,223	13,804	1,066	947	506	404	1,145
Grand total	230,546	191,942	129,571	133,143	142,877	72,183	132,925

Country.	1864.	1865.	1866.	1867.	1868.	1869.	1870.
Austria-Hungary	136	518	87	392	553	1,499	4,425
Belgium	411	282	1,515	1,173	97	1,922	1,002
Denmark	738	772	1,092	2,031	1,596	3,649	4,083
France	2,128	2,949	5,724	5,886	5,119	3,879	4,007
German Empire	41,155	58,153	120,218	124,076	122,677	131,042	118,225
Italy	694	594	1,318	1,585	1,549	1,489	2,893
Netherlands	520	572	1,613	2,598	718	1,134	1,066
Norway	265	84	9,220	2,510	4,296	16,068	13,216
Portugal	48	383	249	320	294	87	255
Russian Empire and Finland	385	217	999	618	376	527	1,130
Spain	681	902	613	862	876	1,123	663
Sweden	1,192	2,500	2,840	5,919	11,253	24,224	13,443
Switzerland	1,022	1,788	3,751	4,656	3,405	3,650	3,075
United Kingdom:							
England	29,349	25,964				35,673	60,957
Ireland	69,161	51,018	133,061	126,289	115,392	40,786	56,996
Scotland	3,136	3,195				7,751	12,521
Wales	856	332				660	1,011
Europe not specified	29,222	19,599	13	15	9	40,380	29,216
Total Europe	181,099	169,772	282,313	278,930	268,210	315,543	328,184
China	5,240	3,702	1,872	3,519	6,707	12,874	15,740
Other Asia	2	11	25	60	63	68	85
Total Asia	5,242	3,713	1,897	3,579	6,770	12,942	15,825
Africa	25	46	32	26	21	72	81
British North America	3,642	3,763	37,419	18,128	5,373	21,117	40,411
Central America	1	1	6	5	2	3	33
Mexico	78	139	244	237	292	320	463
South America	142	128	225	266	197	90	69
West Indies	494	743	988	891	839	2,237	1,679
All other countries	391	2,034	9,453	1,042	485	414	508
Grand total	191,114	180,339	332,677	303,104	282,189	352,768	387,203

TABLE X.—NUMBER AND NATIONALITIES OF IMMIGRANTS ARRIVED IN THE UNITED STATES FROM 1857 TO 1904, INCLUSIVE—Continued.

Country.	1871.	1872.	1873.	1874.	1875.	1876.	1877.
Austria-Hungary	4,887	4,410	7,112	8,850	7,658	6,276	5,396
Belgium	774	738	1,176	817	615	515	488
Denmark	2,015	3,690	4,931	3,082	2,656	1,547	1,096
France	3,137	9,317	14,798	9,643	8,321	8,002	5,856
German Empire	82,554	141,109	149,671	87,291	47,769	31,937	29,298
Italy	2,816	4,190	8,757	7,667	3,631	3,017	3,195
Netherlands	993	1,909	3,811	2,444	1,287	855	591
Norway	9,418	11,421	16,247	10,384	6,093	5,173	4,588
Portugal	290	416	24	60	763	471	1,291
Russian Empire and Finland	1,208	2,665	4,972	5,368	8,961	5,700	7,132
Spain	558	595	541	485	601	518	665
Sweden	10,699	13,464	14,308	5,712	5,573	5,603	4,991
Switzerland	2,269	3,650	3,107	3,093	1,814	1,549	1,686
United Kingdom:							
England	56,580	69,764	74,801	50,905	40,130	24,373	19,161
Ireland	57,439	68,732	77,344	53,707	37,957	19,575	14,569
Scotland	11,964	13,916	13,841	10,429	7,310	4,582	4,135
Wales	899	1,214	840	665	449	324	281
Europe, not specified	16,078	65	104	130	77	86	74
Total Europe	264,548	351,265	396,380	261,232	181,635	120,103	105,092
China	7,135	7,788	20,291	13,776	16,487	22,781	10,594
Other Asia	102	37	39	61	57	153	39
Total Asia	7,237	7,825	20,330	13,837	16,494	22,934	10,633
Africa	23	38	22	14	35	41	16
British North America	47,082	40,176	37,871	32,960	24,051	22,471	22,116
Central America	4	8	38	20	15	15	7
Mexico	402	569	606	386	610	631	445
South America	96	101	163	144	132	156	87
West Indies	1,251	1,351	1,657	1,829	1,832	1,413	1,390
All other countries	707	3,473	2,736	2,917	2,694	2,222	2,071
Grand total	321,350	404,806	459,803	313,339	227,498	169,986	141,857

Country.	1878.	1879.	1880.	1881.	1882.	1883.	1884.
Austria-Hungary	5,150	5,963	17,267	27,935	29,150	27,625	36,571
Belgium	354	512	1,282	1,766	1,431	1,460	1,576
Denmark	2,105	3,474	6,576	9,117	11,618	10,319	9,202
France	4,159	4,655	4,313	5,227	6,003	4,821	3,608
German Empire	29,313	34,602	84,638	210,485	250,630	194,786	179,676
Italy	4,344	5,791	12,354	15,401	32,160	31,792	16,510
Netherlands	608	753	3,340	8,597	9,517	5,249	4,198
Norway	4,759	7,345	19,895	22,705	29,101	23,398	16,974
Portugal	660	392	260	171	42	176	701
Russian Empire and Finland	3,595	4,942	7,191	10,655	21,590	11,920	17,226
Spain	457	457	389	484	378	262	299
Sweden	5,390	11,001	39,186	49,760	64,607	38,277	26,552
Switzerland	1,808	3,161	6,156	11,298	10,844	12,751	9,386
United Kingdom:							
England	18,405	24,183	59,454	65,177	82,394	63,140	55,918
Ireland	15,932	20,013	71,603	72,342	76,432	81,486	63,344
Scotland	3,502	5,225	12,640	15,168	18,937	11,859	9,060
Wales	243	543	1,173	1,027	1,656	1,597	901
Europe not specified	48	58	80	131	274	246	504
Total Europe	100,832	133,070	347,747	527,441	646,764	521,154	452,206
China	8,992	9,604	5,802	11,890	39,579	8,081	279
Other Asia	22	56	37	92	50	82	231
Total Asia	9,014	9,660	5,839	11,982	39,629	8,113	510
Africa	12	17	21	25	32	56	13
British North America	25,568	31,268	99,706	125,391	98,295	70,241	60,584
Central America	50	9	44	29	20	9	23
Mexico	465	556	492	325	366	469	430
South America	88	69	88	110	91	77	65
West Indies	1,019	1,123	1,351	1,680	1,291	903	2,208
All other countries	1,421	2,054	1,969	2,448	2,504	2,300	2,558
Grand total	138,469	177,826	457,257	669,431	788,992	603,322	518,592

TABLE X.—NUMBER AND NATIONALITIES OF IMMIGRANTS ARRIVED IN THE UNITED STATES FROM 1857 TO 1904, INCLUSIVE—Continued.

Country.	1885.	1886.	1887.	1888.	1889.	1890.	1891.	1892.
Austria-Hungary	27,309	28,680	40,265	45,814	34,174	56,199	71,042	76,937
Belgium	1,653	1,800	2,558	3,212	2,562	2,671	3,087	4,026
Denmark	6,100	6,225	8,524	8,962	8,699	9,366	10,659	10,125
France, including Corsica	3,495	3,318	5,034	6,454	5,918	6,585	6,770	4,678
German Empire	124,443	84,403	106,865	109,717	99,588	92,427	113,554	119,168
Gibraltar	.....	8	12	18	13	9	13	.....
Greece	172	104	313	782	158	524	1,105	660
Italy, including Sicily and Sardinia	13,642	21,315	47,622	51,558	25,307	52,008	76,055	61,681
Malta	4	7	1	3	.....	1	6	.....
Netherlands	2,689	2,314	4,506	5,845	6,460	4,326	5,206	6,141
Norway	12,356	12,759	16,269	18,264	13,890	11,370	12,568	14,325
Poland	3,085	3,989	6,128	5,826	4,922	11,078	27,497	40,536
Portugal, including Cape Verde and Azores islands	2,024	1,194	1,360	1,625	2,024	2,600	2,999	3,400
Roumania	803	494	2,045	1,196	893	517	957	.....
Russian Empire and Finland	17,158	17,800	30,766	33,487	33,916	35,598	47,426	81,511
Spain	350	344	436	526	526	813	905	4,078
Sweden	22,248	27,751	42,836	54,698	35,415	29,632	36,880	41,845
Switzerland	5,895	4,805	5,214	7,737	7,070	6,993	6,811	6,886
Turkey in Europe	138	176	206	207	252	206	265	1,331
United Kingdom:								
England	47,332	49,767	72,855	82,574	68,503	57,020	53,600	34,309
Ireland	51,795	49,619	68,370	73,513	65,557	53,024	55,706	51,383
Scotland	9,226	12,126	18,699	24,457	18,296	12,041	12,557	7,177
Wales	1,127	1,027	1,820	1,654	1,181	650	424	729
Europe, not specified	39	54	180	12	16	32	43	.....
Total Europe	353,083	329,529	482,829	538,131	434,790	445,680	546,085	570,876
China	22	40	10	26	118	1,716	2,836	(a)
Other Asia	176	277	605	817	1,607	2,732	4,842	(a)
Total Asia	198	317	615	843	1,725	4,448	7,678	(a)
Africa	112	122	40	65	187	112	108	(a)
Australasia, Tasmania, New Zealand, and Pacific islands, not specified	679	1,136	1,282	2,387	2,196	1,167	1,301	(a)
British North America	38,291	.....	.....	.....	.....	.....	.....	.....
Central America	24	32	23	67	88	147	285	(a)
Mexico	328	.....	.....	.....	.....	.....	.....	.....
South America	44	246	366	440	427	438	664	(a)
West Indies	2,477	2,734	4,876	4,880	4,923	3,070	3,906	(a)
All other countries	115	87	78	76	91	240	297	8,787
Total immigrants	395,346	334,203	490,109	546,889	444,427	455,302	560,319	579,663

Country.	1893.	1894.	1895.	1896.	1897.	1898.
Austria-Hungary	57,420	38,638	33,401	65,103	33,031	39,797
Belgium	3,324	1,709	1,058	1,261	760	695
Denmark	7,720	5,003	3,910	3,167	2,085	1,946
France, including Corsica	3,621	3,060	2,628	2,463	2,107	1,990
German Empire	78,756	53,989	32,173	31,885	22,533	17,111
Greece	1,072	1,356	597	2,175	571	2,339
Italy, including Sicily and Sardinia	72,145	42,977	35,427	68,060	59,431	58,613
Netherlands	6,199	1,820	1,388	1,583	890	767
Norway	15,515	9,111	7,580	8,855	5,842	4,938
Poland	16,374	1,941	791	691	4,165	4,726
Portugal, including Cape Verde and Azore islands	4,631	2,196	1,452	2,766	1,874	1,717
Roumania	.....	729	523	785	791	900
Russian Empire and Finland	42,310	39,278	35,907	51,445	25,816	29,828
Spain	206	925	501	351	448	577
Sweden	35,710	18,286	15,361	21,177	13,162	12,398
Switzerland	4,744	2,905	2,239	2,304	1,566	1,246
Turkey in Europe	625	298	245	169	152	176
United Kingdom:						
England	27,931	17,747	23,443	19,492	9,974	9,877
Ireland	43,578	30,231	46,304	40,262	28,421	25,128
Scotland	6,215	3,772	3,788	3,483	1,883	1,797
Wales	1,043	1,001	1,602	1,581	870	1,219
Europe, not specified	.....	60	24	9	25	1
Total Europe	429,139	277,052	250,342	329,067	216,397	217,786

(a) Included in all other countries.

TABLE X.—NUMBER AND NATIONALITIES OF IMMIGRANTS ARRIVED IN THE UNITED STATES FROM 1857 TO 1904, INCLUSIVE—Continued.

Country.	1893.	1894.	1895.	1896.	1897.	1898.
China	472	1,170	539	1,441	3,363	2,071
Japan	1,380	1,931	1,150	1,110	1,526	2,230
Other Asia	540	1,589	2,806	4,213	4,773	4,336
Total Asia	2,392	4,690	4,495	6,764	9,662	8,637
Africa	(a)	24	36	21	37	48
Australia, Tasmania, New Zealand, and Pacific islands, not specified	(a)	244	141	112	199	201
British North America	.....	194	239	273	290	350
Central America	(a)	32	21	17	6	7
Mexico	.....	109	116	150	91	107
South America	(a)	39	36	35	49	39
West Indies	2,593	3,177	3,096	6,828	4,101	2,124
All other countries	5,606	70	14	.....	.....	.....
Total immigrants	439,730	285,631	258,536	343,267	230,832	229,299

Country.	1899.	1900.	1901.	1902.	1903.	1904.
Austria-Hungary	62,491	114,847	113,390	171,989	206,011	177,156
Belgium	1,101	1,196	1,579	2,577	3,450	3,976
Denmark	2,690	2,926	3,655	5,660	7,158	8,525
France, including Corsica	1,694	1,739	3,150	3,117	5,578	9,406
German Empire	17,476	18,507	21,651	28,304	40,086	46,390
Greece	2,333	3,771	5,910	8,104	14,090	11,343
Italy, including Sicily and Sardinia	77,419	100,135	135,996	178,375	230,622	193,296
Netherlands	1,029	1,735	2,349	2,284	3,998	4,916
Norway	6,705	9,575	12,248	17,484	24,461	23,808
Poland	(b)	(b)	(b)	(b)	(b)	(b)
Portugal, including Cape Verde and Azore islands	2,054	4,234	4,165	5,307	9,317	6,715
Roumania	1,606	6,459	7,155	7,196	9,310	7,067
Russian Empire and Finland	60,982	90,787	85,257	107,347	136,093	145,141
Servia, Bulgaria, and Montenegro	52	108	657	851	1,761	1,325
Spain	385	355	592	975	2,080	3,996
Sweden	12,797	18,650	23,331	30,894	46,028	27,763
Switzerland	1,326	1,152	2,201	2,344	3,983	5,023
Turkey in Europe	80	285	387	187	1,529	4,344
United Kingdom:						
England	10,402	9,951	12,214	13,575	26,219	38,626
Ireland	31,673	35,730	30,561	29,138	35,310	36,142
Scotland	1,724	1,792	2,070	2,560	6,143	11,092
Wales	1,324	764	701	763	1,275	1,730
Europe, not specified	6	2	18	37	5	143
Total Europe	297,349	424,700	469,237	619,068	814,507	767,933
China	1,660	1,247	2,459	1,649	2,209	4,309
Japan	2,844	12,635	5,269	14,270	19,968	14,264
Other Asia	4,468	4,064	5,865	6,352	7,789	7,613
Total Asia	8,972	17,946	13,593	22,271	29,966	26,186
Africa	51	30	173	37	176	686
Australia, Tasmania, New Zealand, and Pacific islands, not specified	.....	.....	498	566	1,349	1,555
British North America	1,322	396	540	636	1,068	2,837
Central America	159	42	150	305	678	714
Mexico	161	237	347	709	528	1,009
South America	89	124	203	337	589	1,667
West Indies	2,585	4,656	3,176	4,711	8,170	10,193
All other countries	1,027	441	1	103	25	90
Total immigrants	311,715	448,572	487,918	648,743	857,046	812,870

a Included in all other countries.
b Beginning with 1899, Polish immigrants have been included in the countries to which they belong.

TABLE XI.—ARRIVALS OF ALIENS, BY NATIONALITIES, IN THE UNITED STATES DURING THE CALENDAR YEAR ENDED DECEMBER 31, 1903.

Country.	Aliens.	Country.	Aliens.
Austria-Hungary	233,454	China	3,759
Belgium	4,295	Japan	17,120
Denmark	7,922	India	104
France, including Corsica	9,385	Turkey in Asia	5,043
German Empire	49,222	Other Asia	1,110
Greece	13,598	Total Asia	27,136
Italy, including Sicily and Sardinia	232,528		
Netherlands	5,025		
Norway	26,257	Africa	254
Portugal, including Cape Verde and Azore Islands	8,279	Australia, Tasmania, and New Zealand	1,845
Roumania	8,174	Philippine Islands	57
Russian Empire and Finland	148,587	Pacific islands, not specified	28
Servia, Bulgaria, and Montenegro	2,157	British North America	2,502
Spain, including Canary and Balearic Islands	3,414	British Honduras	108
Sweden	43,400	Other Central America	587
Switzerland	5,331	Mexico	670
Turkey in Europe	3,316	South America	1,242
United Kingdom:		West Indies	10,286
England	38,596	All other countries	55
Ireland	37,843	Grand total	937,371
Scotland	10,467		
Wales	1,708		
Europe, not specified	143		
Total Europe	893,101		

Table XII gives the immigration of aliens for each year, beginning with 1820 up to and including that for the fiscal year 1904, and the two succeeding tables repeat the figures presented in Table VI, but arranged with reference to the calendar year:

TABLE XII.—NUMBER OF IMMIGRANTS ARRIVED IN THE UNITED STATES EACH YEAR FROM 1820 TO 1904, BOTH INCLUSIVE.

Period.	Number.	Period.	Number.
Year ending September 30—		Year ending December 31—	
1820	8,385	1851	379,466
1821	9,127	1852	371,603
1822	6,911	1853	368,645
1823	6,354	1854	427,833
1824	7,912	1855	200,877
1825	10,199	1856	195,857
1826	10,837	January 1 to June 30, 1857	112,123
1827	18,875	Year ending June 30—	
1828	27,382	1858	191,942
1829	22,520	1859	129,571
1830	23,322	1860	133,143
1831	22,633	1861	142,877
October 1, 1831, to December 31, 1832	60,482	1862	72,188
Year ending December 31—		1863	132,925
1833	58,640	1864	191,114
1834	65,365	1865	180,339
1835	45,374	1866	332,577
1836	76,242	1867	308,104
1837	79,340	1868	282,189
1838	38,914	1869	352,768
1839	68,069	1870	387,203
1840	84,066	1871	321,350
1841	80,289	1872	404,806
1842	104,565	1873	459,803
January 1, to September 30, 1843	52,496	1874	313,339
Year ending September 30—		1875	227,498
1844	78,615	1876	169,986
1845	114,371	1877	141,857
1846	154,416	1878	138,469
1847	234,968	1879	177,826
1848	226,527	1880	457,257
1849	297,024	1881	669,431
1850	310,004	1882	788,992
October 1 to December 31, 1850	59,976	1883	603,322

TABLE XII.—NUMBER OF IMMIGRANTS ARRIVED IN THE UNITED STATES EACH YEAR FROM 1820 TO 1904, BOTH INCLUSIVE—Continued.

Period.	Number.	Period.	Number.
Year ending June 30—		Year ending June 30—	
1884	518,592	1895	258,536
1885	395,346	1896	343,267
1886	334,203	1897	230,832
1887	490,109	1898	229,299
1888	546,889	1899	311,715
1889	444,427	1900	448,572
1890	455,302	1901	487,918
1891	560,319	1902	648,743
1892	579,663	1903	857,046
1893	439,730	1904	812,870
1894	285,631		

TABLE XIII.—REPORT OF ALIENS ARRIVED IN THE UNITED STATES DURING THE SIX MONTHS ENDING DECEMBER 31, 1903.

Country.	Sex and number of aliens arrived.			Aliens in transit.	Grand total.
	Males.	Females.	Total.		
Austria-Hungary	66,888	33,830	100,718	441	101,159
Belgium	1,353	816	2,169	108	2,277
Denmark	1,864	1,485	3,349	49	3,398
France, including Corsica	3,147	2,621	5,768	886	6,654
German Empire	13,802	11,774	25,576	622	26,198
Greece	4,117	253	4,370	60	4,430
Italy, including Sicily and Sardinia	56,175	23,576	79,751	775	80,526
Netherlands	1,169	719	1,888	34	1,922
Norway	5,309	4,513	9,822	85	9,907
Portugal, including Cape Verde and Azore Islands	1,702	1,163	2,865	10	2,875
Roumania	2,279	2,166	4,445	18	4,463
Russian Empire and Finland	41,961	27,722	69,683	333	70,016
Servia, Bulgaria, and Montenegro	759	69	828	3	831
Spain, including Canary and Balearic Islands	1,730	349	2,079	422	2,501
Sweden	8,589	8,661	17,250	108	17,358
Switzerland	1,602	1,030	2,632	79	2,711
Turkey in Europe	2,122	113	2,235	60	2,295
United Kingdom:					
England	13,041	9,354	22,395	2,458	24,853
Ireland	6,598	10,233	16,831	179	17,010
Scotland	3,372	2,492	5,864	357	6,221
Wales	662	367	1,029	20	1,049
Europe, not specified	74	64	138	1	139
Total Europe	238,315	143,370	381,685	7,108	388,793
China	2,720	67	2,787	1,183	3,970
Japan	6,336	857	7,193	112	7,305
India	29	2	31	11	42
Turkey in Asia	2,128	775	2,903	149	3,052
Other Asia	498	54	552	4	556
Total Asia	11,711	1,755	13,466	1,459	14,925
Africa	94	22	116	16	132
Australia, Tasmania, and New Zealand	381	188	569	168	737
Philippine Islands	10	.....	10	3	13
Pacific islands, not specified	6	6	12	2	14
British North America	1,935	924	1,959	1,250	3,209
British Honduras	41	6	47	6	53
Other Central America	138	69	207	57	264
Mexico	241	75	316	197	513
South America	593	237	830	190	1,020
West Indies	2,942	1,759	4,701	408	5,109
All other countries	30	18	48	31	79
Grand total	255,537	148,429	403,966	10,895	414,861

TABLE XIV.—REPORT OF ALIENS ARRIVED IN THE UNITED STATES DURING THE SIX MONTHS ENDING JUNE 30, 1904.

Country.	Sex and number of aliens arrived.			Aliens in transit.	Grand total.
	Males.	Females.	Total.		
Austria-Hungary	51,233	25,205	76,438	1,302	77,740
Belgium	1,236	571	1,807	131	1,938
Denmark	3,689	1,537	5,176	49	5,225
France, including Corsica	2,254	1,384	3,638	708	4,346
German Empire	12,564	8,240	20,804	648	21,452
Greece	6,743	230	6,973	122	7,095
Italy, including Sicily and Sardinia	93,188	20,357	113,545	4,413	117,958
Netherlands	2,012	1,016	3,028	38	3,066
Norway	9,875	4,111	13,986	171	14,157
Portugal, including Cape Verde and Azore Islands	2,480	1,370	3,850	9	3,859
Roumania	1,344	1,298	2,642	18	2,660
Russian Empire and Finland	53,142	22,316	75,458	938	76,396
Servia, Bulgaria, and Montenegro	475	22	497	1	498
Spain, including Canary and Balearic Islands	1,669	248	1,917	391	2,308
Sweden	6,224	4,289	10,513	85	10,598
Switzerland	1,701	690	2,391	84	2,475
Turkey in Europe	2,035	74	2,109	104	2,213
United Kingdom:					
England	10,442	5,789	16,231	3,225	19,456
Ireland	9,529	9,782	19,311	244	19,555
Scotland	3,386	1,842	5,228	629	5,857
Wales	477	224	701	42	743
Europe, not specified	4	1	5	.....	5
Total Europe	275,652	110,596	386,248	13,352	399,600
China	1,478	44	1,522	827	2,349
Japan	6,277	794	7,071	136	7,207
India	214	16	230	8	238
Turkey in Asia	1,671	661	2,332	124	2,456
Other Asia	1,393	172	1,565	26	1,591
Total Asia	11,033	1,687	12,720	1,121	13,841
Africa	515	55	570	21	591
Australia, Tasmania, and New Zealand	585	307	892	337	1,229
Philippine Islands	36	6	42	3	45
Pacific islands, not specified	16	14	30	5	35
British North America	642	236	878	1,255	2,133
British Honduras	32	30	62	23	85
Other Central America	268	130	398	97	495
Mexico	560	133	693	245	938
South America	597	240	837	192	1,029
West Indies	3,604	1,888	5,492	293	5,785
All other countries	23	19	42	5	47
Grand total	293,563	115,341	408,904	16,949	425,853

ALIEN CONTRACT LABOR.

The year under consideration has been fruitful in experiences of the ingenuity and persistence of those whose interests impel a resort to the foreign markets for labor. As the tables already presented will show, the attempts of such importers have, in many instances, been neutralized by the vigilance of Bureau officers. It would be vain to hope, however, in view of the ingenuity and fertility of resource shown in those instances which have been detected, that many aliens do not gain admission to the United States, despite the watchfulness of the inspection officers, whose migration is wholly influenced by promises emanating from employers in this country. The reasons for these successful violations of law are not far to seek. As a rule, both those who resort to alien labor and alien laborers themselves are of exceptional mental acuteness, and the former, however high their repute in the community where they reside for probity, exhibit that same obtuseness of moral perception which finds expression in the widely

prevalent notion, even among some of our worthiest and wealthiest citizens, that it is rather a credit than otherwise to outwit a Federal customs officer and escape the payment of duties on property confessedly dutiable. This obtuseness has in some instances betrayed importers of aliens into confessions of their knowledge of the law and statements of their precautions, not to avoid violating its provisions but to escape bringing their unlawful acts within its literal terms. A favorite resort of counsel for such offenders is to declaim against the injustice of a departmental ruling adverse to their clients because of the admitted violation of law since these ingenious pleaders say, it is a mere "technical" violation, committed by citizens whose law-abiding disposition is attested by their unquestioned influence in the world of affairs and by their equally unquestioned wealth. So much it is necessary to state for the information of those who would understand how difficult it is to detect, from the testimony of clever, interested, and carefully drilled aliens who are brought to our ports under promise of employment, and from the importers themselves, who seem rather to view the law as an edict of organized labor than a statute of our National Government, the evidence to exclude this class of foreign laborers. Such aliens are divided broadly into two classes. There are those who are brought to do work in this country for less than similar laborers here would charge for the same work, and there are those who are brought in pursuance of what is popularly known as the "padrone system"—in fact, a system of peonage or slavery. A familiar instance of the latter class is found in the Greek boot-blacking establishments scattered through our large cities, operated usually by Greek lads ranging from 10 to 18 years of age. These boys are brought here with the consent apparently of their parents, by their older compatriots who have monopolized this business, and who work these boys, owning them as long as the agreement with the parents lasts, and giving them sufficient to maintain life, doubtless much on the same principle that the fuel necessary to operate it is supplied to an engine. During the last four months of the year there arrived at the port of Boston alone, 898 of these youths, 127 of whom were returned. They come ordinarily in smaller groups, professing a purpose merely to secure an education under the care of their relatives in this country, who generally turn out to be proprietors of stands of the kind mentioned. The greatest care is exercised to stop these aliens and return them, both because of the inconsistency of the padrone system with those principles of freedom upon which our form of government is based, and because the importation of contract labor is forbidden

Among the noteworthy instances of the first class may be mentioned what is known in the files of the Bureau as the Ellsworth case. In this case a number of Welsh miners who applied for admission at the port of Philadelphia were excluded upon evidence showing that an employee of the Ellsworth Company of Pennsylvania had visited Wales and had there, both orally and in writing, apprized local miners of the wants of his company, and that the local agents of certain transportation lines had not only sold the said aliens tickets to the United States, but had also, apparently by the use of circulars setting forth the inducements offered at Ellsworth, aided in the migration of said aliens to that point. It has been learned that since their deportation these aliens

intend to resort to the courts for damages for alleged breach of contract. The facts in this case were reported to the appropriate United States attorney to enable him to institute civil or criminal proceedings, or both, against the offending company as the evidence may seem sufficient to sustain, as provided by law. Of the administration of this, the most effective feature of the law, the Bureau of course has no control, though it has had abundant opportunity of observing the difficulties, actual and assumed, which have prevented its successful enforcement. As an illustration of these difficulties, the Bureau may properly cite the case of the San Francisco Brick Company, which was subjected to a civil action, for the penalty prescribed for bringing alien workmen to this country under contract, more than a year ago. This case remains on the docket of the court untried as yet, because, the Bureau is informed, the business of the Federal courts in California is much in excess of their power to dispose of promptly, it being in some cases several years in arrears. A much more serious obstruction, however, to the punishment of these offenders is the apparent disposition of many of the courts to construe the law in such a restricted way as practically to destroy its value. Thus the opinion seems to have been adopted that the special abuse against which the prohibition of the law is directed was the mere making of contract abroad with aliens rather than the inducing of aliens to come by any means sufficient to accomplish that end, and that, therefore, if no legally enforceable contract could be proven, employers of labor in this country could lawfully induce aliens to come here, regardless of the effect of such importations upon the labor interests of the United States. If this view prevails it will clearly become necessary to adopt amendatory legislation to exclude definitely any other construction than that long entertained and consistently acted upon by the Bureau, to wit, that the purpose is to prevent the successful inducement, by any means, of alien immigration, because of the abuses which are committed thereby against the rights of citizens of that class, and therefore against the general welfare of the country.

During the year recourse has been had in a number of cases to the authority granted in sections 20 and 21 of the last immigration act, and aliens who gained admission in violation of the alien contract feature of the law have been arrested on warrants based upon sworn testimony, been given a full hearing, and finally have been ordered deported. Thus, four aliens in the employ of the American Textile Company, of Pawtucket, R. I., were so arrested, two of whom were discharged after hearing, and two deported. The manager of the company, who resisted the officer who undertook to serve the warrants, was indicted therefor, but the Bureau has learned that no further steps have been taken against the company or its manager by the United States attorney at Providence, R. I., upon the ground that the evidence was insufficient. Alien employees of the Camillus Cutlery Company, of Camillus, N. Y., the Steuben Glass Works, of Corning, N. Y., and the International Lace Manufacturing Company, of Gouverneur, N. Y., were also similarly arrested on the ground that their coming to the United States was unlawfully induced by promises or agreements of the said companies, respectively, were given a full hearing, both at Ellis Island and in the Department, and were finally ordered deported.

Counsel for the alien employees of the last-mentioned company, upon writ of habeas corpus, secured a ruling from Judge Lacombe, of

the United States circuit court for the southern circuit of New York, that the principle of res adjudicata was applicable to those cases, as the petitioners had been permitted to enter the United States by the unanimous vote of a board of special inquiry, and that, accordingly, a proper construction of sections 20 and 21 of the act of March 3, 1903, did not confer authority to arrest and deport these aliens however conclusive the evidence that the board of special inquiry had been deceived. From this ruling an appeal was taken, and unless such appeal is sustained the Bureau deems it indispensable to the vital force of this feature of the law that amendatory legislation be enacted to preclude such a construction as will enable these alien offenders against our laws to enjoy an immunity from its expulsion provisions if successful in deceiving administrative officers. In this connection it is well to bear in mind the judicial view that deportation in such cases is not a punishment for crime, but a measure for the protection of this country from undesirable immigration.

In concluding the review of this subject the Bureau is impelled to direct attention to the fact that the effective operating cause of violations and attempted violations of the alien contract-labor law is the employer of such labor in this country. To put an end to such offenses, therefore, it is necessary for the law to successfully reach such employers, and by sufficient punishment, more potent than the mere expulsion or deportation of the alien induced by them to migrate hither, to deter them from such practices. This feature of the law of necessity must be enforced by the officers of the Department of Justice operating through the courts. The Bureau can only assist in securing the evidence for use in such cases, but it can not refrain from expressing the view, based upon long observation, that this which obviously should be the strongest is for some reason, removable possibly by appropriate legislation, the most ineffective provision of the law in relation to the importation of aliens under inducements of profitable employment in the United States.

As indicated in the last annual report of the Bureau no separate appropriation has been made for the specific purpose, but the alien contract provisions of the law have been enforced since March 3, 1903, at the cost of the general appropriation composed of the head tax, as are all other provisions of the immigration laws. Hence no separate account is now kept of expenditures for this particular purpose, as was formerly done.

DISEASED ALIENS.

This is a feature of the administration which has given the Bureau more concern than any other, both because of its importance as affecting the health, or even the life possibly, of citizens of this country, and because of the apparent determination to bring aliens suffering with communicable diseases upon the chance of the latter being able to effect an entrance. That the law is being defied by some of the companies is plain, from the fact that 1,560 alien passengers thus afflicted were denied admission during the year. It is but just to say that some of these cases did not reach the perceptible stage of development until after embarkation; but in most instances the agents of the companies, with amazing pertinacity, ignored the law, as shown by

the fact that during the year there have been imposed upon them penalties, under section 9 of the act of March 3, 1903, amounting to $28,400, as shown in the subjoined statement:

FINES CERTIFIED UNDER SECTION 9 OF THE ACT APPROVED MARCH 3, 1903, DURING FISCAL YEAR ENDING JUNE 30, 1904.

Port.	Month.	Amount.
	1903.	
Baltimore	November	$100
Boston	Sundry	1,900
New Orleans	May	100
Philadelphia	Sundry	200
San Francisco	do	200
New York	July	3,600
Do	August	800
Do	September	1,100
Do	October	1,200
Do	November	1,200
Do	December	1,200
	1904.	
Do	January	1,600
Do	February	1,400
Do	March	3,200
Do	April	6,000
Do	May	2,600
Do	June	2,000
Total		28,400

The Bureau was at loss to explain the apparent indifference of some of the transportation lines to the payment of such heavy penalties except upon the theory that they exacted beforehand indemnity for probable fines of the character under consideration. Although this theory involved the assumption that such companies, all of whom express and who would, if governed by considerations of wise policy and a respect for law, feel a desire to comply with its provisions, had an ulterior purpose to bring diseased aliens to this country if they could do so without pecuniary loss, yet it seemed the only reasonable explanation of the continuous, and almost undiminished, flow of such arrivals to our shores. How far the Bureau was justified in its theory, not only on the ground of reason but also of experience, may be determined by a perusal of the following extract from a circular of instructions issued by one of the great transportation corporations to pursers of its vessels:

f. If a person desiring to take passage, and who has been found to have a loathsome or a dangerous contagious disease, other than a quarantinable disease, and who claims to be a United States citizen, either native or naturalized, but who is unable to prove such citizenship, but who claims that he will be able to prove it on arrival in the United States—such person may be accepted under the following conditions:

1. He shall deposit with the company $150 for each person in the family, which amount is to be forfeited to the company if upon arrival in the United States he be ordered deported by United States Commissioner of Immigration, and he shall sign an agreement as per copy below.

2. The person or persons so afflicted shall agree that they be isolated from other passengers during the voyage.

Thus is ingeniously pointed out to diseased aliens, who are not averse to guaranteeing the company against loss and whose conscience has sufficient elasticity to cover a false claim to citizenship, an easy means to get to a port of this country despite any contrary provision of law.

There is quite a child-like trustfulness shown by this great company in paragraph 2 of this circular, which was evidently added as an advertisement of its solicitude for the very thing the law intended to protect—the health of other passengers directly and indirectly the health of American citizens. It proposed, however, a substitute for the means to accomplish that end devised by Congress, which relieved the company of any risk of pecuniary loss should it do what the law forbade.

Further comment on this remarkable circular, except as to its effect, is unnecessary.

To the uninformed the natural query would suggest itself, What objection can there be from any source, except the deluded alien, who pays the just penalty of his deceit, to this, as the diseased alien is isolated on the way over and at once returned if he fails to prove his alleged citizenship? The answer is simple. As to the isolation during the voyage, Congress evidently thought it impracticable or unreliable, since it substantially forbade the taking of such persons aboard, and the above-quoted instruction would seem to justify a possible impression that the lines could not be trusted to even attempt to maintain an effective isolation of the diseased. As to the return of such aliens the Bureau directs attention to its former reports reciting the devices, the pleas on the score of humanity, the promises of confinement in hospital, the social, the religious, the political influences brought to bear against deportation of such persons. The latest and most successful of such expedients has been to delay action until the diseased alien was about to depart on the vessel which brought him over, then to secure a writ of habeas corpus from the courts suspending administrative action, and, if the alien was not cured by the time set for hearing on the writ, to secure continuances for a sufficient additional time to effect such cure. There then being no longer any physical objection to the alien, his landing necessarily followed. Thus the alien is brought to this country in violation of express law, the risk of contagion has been incurred, treatment in hospital has been obtained in spite of express legislative prohibition thereof, and the machinery of the general law has been successfully set in motion in his behalf, not only to save him from any consequences of his law-breaking, but to enable him to override the immigration law. This statement is not of hypothetical but of actual occurrences, and similar recourse will be had, if present conditions continue, as supplementary to those devices described in former reports.

The proportions in which each of the alien races contributed to the total of 1,560 rejected on account of having communicable diseases are as follows:

Race.	1903.	1904.	Race.	1903.	1904.
Japanese	538	196	Croatians and Slovenians	41	25
Hebrews	252	183	Russians	30	10
Poles	201	173	Greeks	29	45
Italians (south)	147	235	Armenians	26	30
Germans	131	99	Irish	14	13
Finns	79	48	All others	118	261
Lithuanians	69	89			
Syrians	56	115	Total	1,773	1,560
Slovaks	42	38			

As intimated last year, one of the chief of these contagious diseases, trachoma, is of oriental origin, and accordingly, upon application to Dr. Walter Wyman, the Surgeon-General of the United States Public Health and Marine-Hospital Service, orders were issued August 21, 1903, to his officers serving at the principal Eastern ports to examine aliens embarking from such ports to the United States.

As a result of these orders there have been rejected at the port of Yokohama, Japan, since September 22, 1903, out of 9,538 examined, 629, and at the port of Nagasaki, Japan, 656 were rejected during the same period, all afflicted with trachoma, except 1, who had favus, a disease of the scalp.

These facts, it is submitted, abundantly justify the recommendation made elsewhere in this report, as also in the last annual report, that Congress authorize the physical examination of aliens to be made at the principal foreign ports of embarkation by officers of the Public Health and Marine-Hospital Service. Such a course will protect both the people of this country from disease and those transportation lines which are endeavoring to live up to the law from the results of involuntary error, and at the same time prevent those which treat the fine as a mere revenue measure from continued disregard of the law.

INDUCEMENTS TO IMMIGRATION.

In the last annual report quite an exhaustive statement was inserted of the results of an investigation in foreign countries by Inspector Braun. From that statement it appeared that Europe was covered with a perfect network of independent steamship agencies, composed in large part of persons of strong local influence in the towns and villages of their residence. These persons work as subagents of the large steamship agencies in the cities, receive a commission on the sales made, and are independent of the control of the transportation lines they so voluntarily represent, and equally beyond the reach of the law of this country. By this means violations of our laws, particularly of those that are directed against aliens under agreement to work here, continuously occur. The facts then reported have been, on a recent trip, both amplified and verified by Inspector Braun, who further submits evidence which leads to the conclusion that certain foreign countries are actively engaged in the business of inducing emigration to this country. He states also that some of the public officers of those countries admitted that such was the case. The explanation offered was that it was found expedient to colonize their subjects who come to this country, for the purpose of maintaining in them a love of their mother country. This was accomplished through agents of the home government and church, sent here to keep the colonists together, to keep them from imbibing a knowledge of and affection for the institutions of the United States, which might, and probably would, result in their purchase of homes here and final expatriation from their own country. That result meant a permanent loss to those countries of the allegiance and usefulness of such of their subjects as adopt our views and become American citizens, as well as loss of the enormous aggregate revenue sent back annually by those who cherish the intent of ultimately returning, buying homes, and living on the proceeds of their earnings.

Here we have, for the first time, an authoritative statement of one at least of the reasons for the existence of alien colonies in the United States, which the Bureau has pointed out as the cause of the chief dangers to be apprehended from the enormous immigration of aliens. It is unnecessary here to repeat the Bureau's views on this point, but it does not desire, nor could it have, a more conclusive reason to sustain those views than Inspector Braun's report. Our interest, if not safety, lies in the gradual naturalization, or Americanization, of our alien population. The interest of the countries from which that population comes lies in the opposite direction. Those countries are taking measures to accomplish their ends. Shall the United States neglect what is to its interest in this respect under any circumstances, especially as artificial obstacles are now added to natural ones?

During the year the Bureau investigated a complaint, which was made by a Dublin (Ireland) society organized to reduce emigration from that country, to the effect that the transportation lines were violating the laws of this country in their zeal to secure business. Beyond neglect of the requirements of the act of March 3, 1893, in regard to posting copies of the immigration laws at the steamship agencies, printed in the language of the country where tickets are sold, no evidence was obtained to support the complaint.

It is useless, if not puerile, to trust that the transportation lines, representing enormous investments of capital, operated for that express purpose, will not resort to every known means to secure passengers, or that persons acting as their agents in foreign countries will not do likewise to secure commissions, even if such acts involve a violation of the laws of the United States. The former is quite natural, indeed, commendable, within lawful limitations; the latter may be reasonably anticipated. The only significance, therefore, of such information is the necessity it shows for an unremittingly vigilant and thorough inspection at our ports. It should be remembered that this country has thus far placed no limitation on the number of aliens who may annually enter its territory. Its efforts have been solely directed thus far, in regard to alien immigration, to excluding or expelling certain definitely named classes of aliens, leaving its doors wide open to the entrance of all others. There need be no apprehensions as to the results to this country of the efforts of the steamship companies or their agents to secure passengers, so long as an effective inspection is maintained at our seaports and along our land boundaries, nor of the attempts of foreign countries to colonize their subjects in the United States, if suitable measures are adopted to distribute arrivals throughout the country in accordance with the economic law of supply and demand.

NATURALIZATION AND DISTRIBUTION.

The views expressed in the last annual report upon these two subjects connected with our alien population have been confirmed by the experience of another year. Evidence accumulates daily to show that not only does the failure of the Government to provide for the distribution of aliens through the United States, but the exertions of foreign countries as well, combine to maintain alien colonies in this country.

Such colonies are open to objection not merely on political grounds, but for social and sanitary reasons in a far greater degree, as well. It

can not, in justice to the interests of our country and to the preservation of its institutions, be too urgently or too frequently repeated that, in confining our treatment of the all-important immigration problem to the exclusion of such of certain enumerated classes as we can detect, our policy is superficial. The practical and pressing question is, What shall be done with the annual arrivals of aliens—approximating now 1,000,000—to avoid the dangers threatened thereby or resulting therefrom, which only the thoughtless or groundlessly optimistic can deny?

This is not the proper medium for the elaboration of this subject, but the duty of directing public attention and thought to it is imperative. On the one hand, the enormous expenditures in our large cities for the support of indigent aliens; the records of the lesser criminal and police courts; the roster of our public hospitals, jails, asylums, and reformatory institutions; the gorged habitations of aliens in the cities; the struggle for bare existence by which the "sweat-shop" system of labor has passed from one alien race to another, each time finding a higher level of human endurance and a correspondingly lower level—hardly higher than that of the brute creation—of existence; the formation of large colonies of people wholly alien to American civilization in language, thought, aspiration, and life; the introduction into this free country of such hideous and terrifying fruits of long-continued oppression as the mafia, the vendetta, "black hand," and anarchist societies; and, on the other hand, the millions of untilled acres and the unsatisfied demand for agricultural and other manual labor unite to impress deeply upon the public mind and conscience the imperative, the immediately impending, and rapidly augmenting necessity, both on the score of humanity and self-defense, of attempting a distribution of the ever inflowing tide of aliens.

Those foreign countries where the labors of the ever active transportation agent have been most effective in diminishing native population have become alarmed, and have made futile attemps to check an exodus which threatens to seriously impair their self-supporting capacity. Failing in this, they have taken the next possible step, that of minimizing the evil, and if possible of turning it to their advantage in the long run. Hence all the political and social, and occasionally religious, resources of those countries are being directed to one end—to maintain colonies of their own people in this country, instructing them through various channels to maintain their allegiance to the countries of their birth, to transmit their earnings here to the fatherland for the purchase of ultimate homes there, and to avoid all intercourse with the people of this country that would tend to the permanent adoption of American ideals. Thus emigration from certain foreign countries has become, in a much larger sense than the public imagines, a revenue resource to those countries, of immediate benefit to them to the extent of the aggregate remittances, of prospective benefit to them because it insures the return of the emigrant with his accumulated savings.

Somewhat upon this subject was shown in the last annual report. The data then reported has since been abundantly supplemented by a further investigation conducted abroad by Inspector Marcus Braun, whose report last year was published in extenso. Inspector Braun's statements to the foregoing effect are corroborated by a number of exhibits, some from publications of a semiofficial character. It is not

necessary to repeat these here. The Bureau conceives that the general views expressed are sufficient to stimulate the public sense to an intelligent comprehension of the situation and of the necessity of taking some prompt action in regard to the distribution of our alien population.

In regard to the evils of fraudulent naturalization, Mr. Braun's report furnishes some striking illustrations, showing the ease with which aliens have been able to secure certificates and passports, and the unworthy and, in some instances, evil uses to which what the Supreme Court justly calls "the priceless heritage of American citizenship" have been put. The specific reason of the Bureau for urging this subject upon the public attention is because fraudulently naturalized aliens constitute a serious menace to the administration of the immigration laws, but there are other and far more serious ills that result from the irresponsible bestowal of citizenship on aliens not necessary to enumerate in this report, but easily conceivable to the thoughtful mind. So important is this feature of Mr. Braun's report that it is deemed advisable to incorporate it herein:

I had a number of interviews with missionaries, such as Rev. F. D. Hoskins, D. D., stated clerk of the American Presbyterian Mission in Syria, and professors of various schools and colleges bearing on the question of this Syrian emigration. They consider the promotion of this traffic a curse, for, as Professor Crawford of the American College at Beirut told me in one of these interviews, "those returning from the United States bring back in addition to their former bad habits, which consist chiefly of a lying disposition, also the nasty habit of forwardness. A characteristic of such returning Syrians is the almost universal custom to come back supplied with American naturalization papers; they do not, however, disclose such citizenship; in fact, they conceal this circumstance as much as they possibly can. They still pose as Turkish subjects, and, probably because most of these naturalization papers are obtained fraudulently, they refrain from asserting their American citizenship until for some reason or other they get in trouble and difficulties with the Turkish authorities, when, and in which event, their certificate of citizenship is immediately produced and the American consul called upon for protection, giving no end of inconvenience to our said consul."

The sum total of my investigation and experience regarding Syrian emigration is therefore that, taking the most favorable aspect, and eliminating all those who succeed in entering this country in violation of sections 2, 3, and 4 of the United States immigration law of March, 1903, those who are admitted under our laws come here for the double object of earning money and procuring naturalization papers, and, armed with both, return to their native country to live contentedly under the protection of the United States Government, in case it should become necessary for them to avail themselves of such protection. I am informed that "T. G. Azar," of 622 South Second street, St. Louis, Mo., "Abdulah Shehin," of 88 Washington street, New York City, and "Fera & Teen," at Fort Wayne, Ind., seem to be the chief factors in promoting Syrian emigration.

From Syria I went to Palestine, and while emigration from the latter place is not very considerable as yet, the time I spent in visiting that country was not wasted. The conditions I found to exist there are even worse, if such be possible, than in Syria. In the city of Jerusalem alone I found over 1,000 "American citizens," the vast majority of whom, being Hebrews, live there ostensibly for religious reasons. A number of them are engaged in some business pursuits. These, however, are in the minority, the prevailing majority living on charity, mostly on the so-called "Chaluka" (the biblical one-tenth), which they obtain from all over the world, either through organized charitable organizations or from private individuals. These people send out thousands upon thousands of letters annually begging charitable contributions, and they cause Doctor Merrill, the United States consul, and his dragoman no end of trouble.

These alleged "American citizens," although they enjoy and avail themselves of the high privilege and protection of American citizenship, are in truth and in fact not Americans at all, and quite a number of them have become naturalized by fraud.

I am in position to make this statement on positive authority, and from information I obtained in personal interviews with some of these "fellow-citizens." In

some instances the fraud by which these people became naturalized was so flagrantly apparent that I was induced thereby to procure, through our consul, some of the certificates of naturalization and United States passports, as well as other papers and documents of those I suspected, and which are hereto attached, marked Exhibits "I 1," "I 2," "I 3," "J," and "K," respectively.

I do not wish to confine myself, however, to cases in which naturalization was procured through fraudulent channels, for even the majority of those whose naturalization came about in a regular way can not be bona fide citizens. A careful perusal of their naturalization papers will disclose that the sojourn of most of these people in the United States lasted just long enough to be legally entitled to naturalization, 99 per cent of which, if unaccompanied by other circumstances, would be quite commendable. If we consider, however, that the passports of these people are dated but one or two days later than their naturalization papers, it shows conclusively that their sole object in coming here was to become citizens for revenue only. They never intend to return to the United States, many of them own property in Jerusalem, paying no taxes to the Turkish Government, and they forever and always envelop themselves in the American flag for protection whenever they desire to defy the Turkish Government or have some other selfish and mercenary reason for doing so.

I have singled out the following, as the more flagrant cases, for your especial consideration, for the reason that they invite more than ordinary attention:

The certificate of Solomon Davidson (Exhibit I 1), was issued by the court of common pleas for the city and county of New York, on the 16th day of October, 1876. From information obtained at the American consulate in Jerusalem, and from other sources, it appears that the holder of this certificate arrived in Jerusalem a great many years ago, and, following the customary rule, deposited his citizen paper with the United States consul. This man is believed to have died since. And yet, there is at present another Solomon Davidson residing in Jerusalem, who came there many years later, and who holds the attached duplicate of the original certificate of naturalization (Exhibit J 1), issued by the same court a number of years later, showing upon its face that such duplicate was issued for the man who obtained the original. Exhibit J 2 is a United States passport issued to this alleged Solomon Davidson, No. 2, by the United States legation at Constantinople.

The case of Jacob D. Politz, which is but one of numerous similar instances, is also worthy of due consideration and attention. I have not been able to obtain his certificate of citizenship, but my information coming from Mr. Antoine Thomas Gelat, the dragoman of the United States consulate at Jerusalem, one of the very few people thus employed who are considered very trustworthy, it is absolutely reliable. In this case the fraud and the fraudulent object is so apparent that it is removed entirely from the field of speculation, and I believe could be readily verified by a reference to the court records in New York City. This man stated at the United States consulate that he has resided in the United States from 1887 to 1894. During that time he had not become an American citizen, nor did he declare his intention of doing so. In 1894 he went to Jerusalem and returned to the United States in 1900 alone and without any member of his family, residing here for two years and three months, at the end of which, and to wit, on the 15th day of February, 1902, he obtained his certificate of citizenship at the United States district court for the southern district of New York, being vouched for by one Samuel Weinstein, who acted as his witness. Now, this man was a resident of the United States for fully seven years without ever thinking of becoming a citizen thereof. Having earned sufficient money and experience he concluded to go to Jerusalem and live there. It is more than probable that the Turkish Government demanded the payment of taxes and other assessments from him, and in order to avoid such payment and to disregard the laws of the land in which he intended to live and die he decided, after an absence of six years, to return to the United States, and upon his arrival here he immediately declared his intention of becoming a citizen(procuring his first paper). Whether or not he actually resided in the United States the two following years is not proven—he claims that he did—and at the end of said two years he obtained his final certificate of citizenship, and had a witness who swore that he knew Jacob D. Politz as a resident of the city of New York for five consecutive years preceding the date of his said citizenship paper. Upon that very day Politz applied to the State Department for a passport, and next day sailed for Jerusalem, where he is now living with his family.

Exhibit J also presents a suspicious aspect, and consists of a United States passport bearing number 48904, and dated at Washington, November 13, 1901, issued to one Henry Fried, age 17 years, a letter in French, dated Jerusalem, November 2, 1902, and evidently addressed to the United States consul at Jerusalem, emanating from the said Fried, to whom said passport is issued, and an affidavit, subscribed

and sworn to at New York City on January 11, 1901, signed by Marcus Fried and Mary Fried, the alleged parents of the person to whom said passport is supposed to have been issued. There is every reason to believe that the said Henry Fried has never been in the United States, and as a matter of fact, petitions the consulate, in said French letter, to be admitted as an American subject, and be accorded the protection of the American flag. The only proof of this individual ever having been in the United States is the affidavit hereto attached, according to which the said Henry Fried was sent by his above-mentioned parents to Jerusalem from the United States. This allegation of the affidavit is doubtful in the extreme and is certainly deserving of minute investigation.

The case of Abraham Fried, a Hungarian by birth, also presents suspicious circumstances. His certificate of citizenship was issued in the United States district court for the southern district of New York, on July 12, 1900. His passport, bearing number 30122, is issued by the State Department on July 13, 1900 (both being on file at the United States consulate at Jerusalem).

Isadore Feingold, a Russian by birth, was naturalized at the United States district court for the southern district of New York on July 27, 1903. His passport, bearing number 76944, is dated July 30, 1903 (both are deposited with the United States consulate at Jerusalem).

Moses H. Lewensohn, of Russian birth, was naturalized in the New York court of common pleas on July 24, 1878, his passport, being No. 9069, was issued July 25, 1878 (both now kept at the United States consulate). This man has been a resident of Jerusalem ever since.

Alexander Rabinovitsch was naturalized in the Kings County court-house, Brooklyn, N. Y., on September 19, 1894; his passport, bearing number 16585 is dated September 20, 1894. Rabinovitsch told me that he and his wife lived in America for ten years, but that neither of them spoke one word of English. His papers, too, are deposited at the United States consulate.

Another peculiar case is that of Baruch-Jacob Sachs, whose certificate of citizenship (Exhibit K) is a part of the exhibits enumerated above, and that of his brothers, Hirsch-Leib and Nisen. They are very strongly suspected of never having been in the United States and yet they all hold certificates of citizenship. The naturalization paper of Baruch-Jacob Sachs was issued out of the United States circuit court, Cook County, Ill., on January 19, 1894. His passport, bearing number 15250, was issued by the Department of State on July 30, 1894 (the latter paper being on file at the United States consulate at Jerusalem). He is 48 years old, married, and has a family of seven children.

His brother, Hirsch-Leib, obtained his naturalization paper in the United States circuit court of Cook County, Ill.; it is dated February 2, 1894. His passport, which bears number 15249, is dated July 30, 1894 (both deposited with the United States consulate). He is 44 years old, married, and has a family of four children.

Nisen Sachs, the third brother, has a naturalization paper issued in the circuit court of Cook County, Ill., October 14, 1894. His passport, which is numbered 2400, is dated May 3, 1897 (certificate and passport at United States consulate). He is 42 years old and has a wife and six children.

Ninety-nine per cent of these alleged "American citizens" in Jerusalem do not speak one word of English, and most of those whom I interviewed did not even know the street of the city in which they claimed to have resided while in the United States.

During this portion of my investigation I came across a number of peculiar documents, issued under the seal of the United States consulate, and purporting to take the place of United States passports. Hundreds of these papers are afloat at Jerusalem and vicinity and have been sold at 20 napoleons (about $80) and upward. I obtained one of these papers and attach it hereto, marked "Exhibit J 1."

ALIEN INMATES OF PUBLIC INSTITUTIONS.

During the past year inspectors have been detailed to make inquiries as to the number of alien inmates of penal, reformatory, and charitable institutions in the United States. The results of these inquiries have been arranged in tabulated form, showing character of the institutions where such persons are confined or supported, the States or Territories burdened with their support, and other useful and suggestive information bearing on the subject:

[*Attention is invited to explanation under the heading of "Chart 6" on page 890, which explanation also applies to the following tables.*]

TABLE 1.—ALIENS DETAINED IN **PENAL, REFORMATORY,** AND **CHARITABLE INSTITUTIONS** OF THE UNITED STATES.

DETAILS, BY RACES, OF ALIENS DETAINED.

Subdivision of races.	Alien inmates.	Sex.		Age.		Cause.				Probable period of detention.			Jurisdiction of institution.			
		Males.	Females.	Under 21.	21 and over.	Criminals.		Insane.	Paupers.	Under 2 years.	2 years and over.	Life.	Federal.	State.	County.	Private.
						Grave.	Minor.									
African (black)	208	162	46	35	173	62	54	52	40	68	85	55	1	117	70	20
Armenian	59	52	7	8	51	6	4	24	25	22	13	24	.....	37	14	8
Bohemian and Moravian (Czech)	406	250	156	39	367	20	28	251	107	79	76	251	2	224	155	25
Bulgarian, Servian, and Montenegrin	7	7	.....	2	5	1	2	3	1	2	2	3	.....	4	3	.....
Chinese	670	659	11	21	649	207	108	317	38	164	174	332	5	460	197	8
Croatian and Slovenian	129	122	7	21	108	10	36	27	56	86	15	28	.....	36	68	25
Cuban	59	55	4	14	45	12	9	26	12	17	18	24	.....	39	10	10
Dalmatian, Bosnian, and Herzegovinian	5	5	.....	.....	5	.....	1	2	2	3	1	1	.....	2	1	2
Dutch and Flemish	183	148	35	18	165	21	27	81	54	41	31	111	3	106	64	10
East Indian	23	19	4	1	22	5	.....	16	2	3	5	15	.....	15	8	.....
English	4,248	2,883	1,365	413	3,835	420	697	1,884	1,247	990	879	2,379	94	2,548	1,237	369
Finnish	383	320	63	26	357	40	67	198	78	112	80	191	4	252	103	24
French	1,948	1,421	527	281	1,667	197	421	823	507	469	409	1,070	15	1,170	615	148
German	9,050	6,024	3,026	673	8,377	587	706	5,041	2,716	1,467	1,442	6,141	222	4,826	3,314	688
Greek	103	98	5	26	77	19	25	21	• 38	54	33	16	.....	55	35	13
Hebrew	2,765	1,669	1,096	1,206	1,559	170	389	935	1,271	640	1,058	1,067	2	1,169	715	879
Irish	11,980	5,423	6,557	442	11,538	288	1,155	6,187	4,405	2,434	1,116	8,430	253	6,365	3,957	1,405
Italian	3,266	2,802	464	863	2,403	755	563	738	1,215	1,147	1,300	819	22	1,588	950	706
Japanese	229	210	19	16	213	96	28	42	63	93	90	46	3	122	55	49
Korean	4	4	.....	.....	4	.....	2	1	1	4	.....	.....	.....	2	1	1
Lithuanian	196	177	19	19	177	21	54	20	101	135	26	35	1	43	115	37
Magyar	507	379	128	104	403	67	95	180	165	180	149	178	6	228	184	94
Mexican	908	832	76	114	794	495	205	94	114	269	462	177	4	554	301	49
Pacific Islander	1	1	.....	.....	1	.....	.....	1	.....	.....	.....	1	.....	1	.....	.....
Polish	2,064	1,601	463	317	1,747	227	393	667	777	826	444	794	15	854	934	261
Portuguese	183	139	44	20	163	16	19	91	57	56	31	96	1	118	39	25
Roumanian	52	45	7	16	36	9	12	8	23	26	17	9	.....	24	15	13
Russian	324	253	71	50	274	47	53	154	70	102	118	104	7	170	111	36
Ruthenian (Russniak)	20	20	.....	1	19	.....	2	6	12	14	3	3	.....	4	10	6
Scandinavian (Norwegians, Danes, and Swedes)	3,125	2,139	986	165	2,960	155	238	2,089	693	582	491	2,052	27	2,008	927	163
Scotch	908	608	300	88	820	80	149	340	334	246	136	521	5	472	319	107
Slovak	438	361	77	52	386	29	98	95	216	253	60	125	.....	128	219	91
Spanish	151	130	21	28	123	26	14	58	53	49	44	58	5	67	52	27
Spanish-American	42	38	4	6	36	7	6	10	19	4	12	26	.....	18	15	9
Syrian	107	74	33	64	43	8	18	8	73	38	59	10	.....	25	26	56
Turkish	38	35	3	12	26	6	7	16	9	8	15	15	1	28	5	4

TABLE 1.—ALIENS DETAINED IN **PENAL, REFORMATORY,** AND **CHARITABLE INSTITUTIONS** OF THE UNITED STATES—Continued.

DETAILS, BY RACES, OF ALIENS DETAINED—Continued.

Subdivision of races.	Alien inmates.	Sex.		Age.		Cause.				Probable period of detention.			Jurisdiction of institution.			
		Males.	Females.	Under 21.	21 and over.	Criminals.		Insane.	Paupers.	Under 2 years.	2 years and over.	Life.	Federal.	State.	County.	Private.
						Grave.	Minor.									
Welsh	175	121	54	9	166	15	13	78	69	36	20	119	3	90	67	15
West Indian	26	18	8	8	18	5	3	6	12	12	9	5	.....	11	7	8
Total	44,985	29,299	15,686	5,173	39,812	4,124	5,701	20,485	14,675	10,731	8,923	25,331	701	23,975	14,918	5,391
CHARACTER OF INSTITUTION.																
Charitable	15,396	9,391	6,005	2,992	12,404	.....	.....	721	14,675	4,832	2,357	8,207	.....	1,583	8,474	5,339
Insane	19,764	10,888	8,876	283	19,481	.....	.....	19,764	.....	1,858	1,621	16,785	660	17,133	1,919	52
Penal	9,825	9,020	805	1,898	7,927	4,124	5,701	.....	.....	4,541	4,945	339	41	5,259	4,525	.....
All institutions	44,985	29,299	15,686	5,173	39,812	4,124	5,701	20,485	14,675	10,731	8,923	25,331	701	23,975	14,918	5,391

LENGTH OF TIME IN THE UNITED STATES.

Character of institution.	1 year.	2 years.	3 years.	4 and 5 years.	6 to 10 years.	11 to 20 years.	21 to 30 years.	31 to 40 years.	Over 40 years.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Charitable	7	5	4	7	8	20	15	16	18
Insane	1	1	2	5	12	35	22	14	8
Penal	5	5	6	13	20	33	12	5	1
All institutions	5	4	4	8	13	28	16	12	10

PORTS OF LANDING.

Port.	Per cent.	Port.	Per cent.	Port.	Per cent.
New York	71	Baltimore	3	Canadian ports	8
Boston	7	San Francisco	2	All other ports	5
Philadelphia	4				

Of the total of all classes so supported or confined, amounting to 44,985, there is a distribution among the different sections proportionate to the total alien population of each section respectively. Thus there are 29,301 such aliens in the North Atlantic States, 9,082 in the North Central States, 5,094 in the Western States, 1,909 in the South Atlantic, and 1,282 in the South Central, while the insular possessions, other than the Philippines, show but 317.

An examination of the causes of confinement discloses the significant fact that of the total not much less than half, or 20,485, are insane, while the criminals number 9,825, consisting of 4,124 grave offenders and 5,701 whose offenses are petty. The remaining 14,675 are dependents from various causes. The 20,485 insane are virtually all burdens for life, to which it seems from the table that there are to be added about 5,000 other aliens whose detention will last for their lifetime.

The following information has been taken from the tables presented as showing important results of the inquiry. In view of the fact that New York alone has the burden of nearly 6,000 insane aliens, the effort made by the last assembly of that State, in the vain attempt to assume control of the examination at the Federal immigrant station at Ellis Island sufficiently to protect itself against additional immigration of this character, is not unnatural. (See chart 6 for detailed information by States.)

ALIEN INMATES IN **PENAL, REFORMATORY,** AND **CHARITABLE** INSTITUTIONS IN THE UNITED STATES.

Total		44,985
In continental institutions:		
North Atlantic States	27,301	
South Atlantic States	1,909	
North Central States	9,082	
South Central States	1,282	
Western States	5,094	
		44,668
In insular institutions:		
Hawaii	282	
Porto Rico	35	
		317

Classification.	United States.	Porto Rico.	Hawaii.	All.
Jurisdiction of institution.				
State	23,777	20	178	23,975
County	14,863	13	42	14,918
Federal	701			701
Private	5,327	2	62	5,391
Probable period of confinement.				
Under 2 years	10,619	15	97	10,731
Over 2 years	8,827	14	82	8,923
Life	25,222	6	103	25,331
Cause.				
Criminal:				
Grave offenses	4,011	15	98	4,124
Minor offenses	5,664	5	32	5,701
Dependent:				
Insane	20,389	6	90	20,485
Paupers	14,604	9	62	14,675
Age.				
Under 21 years	5,162		11	5,173
Over 21 years	39,506	35	271	39,812
Sex.				
Males	29,013	28	258	29,299
Females	15,655	7	24	15,686

ALIEN INMATES OF CHARITABLE INSTITUTIONS.

Total alien inmates found in charitable institutions (including almshouses, homes, juvenile asylums, hospitals, institutions for the feeble-minded, and all other institutions in which people dependent upon public charity are confined, except institutions for the insane)		15,396
In continental institutions:		
North Atlantic States	10,398	
South Atlantic States	690	
North Central States	2,963	
South Central States	290	
Western States	984	
		15,325
In insular institutions:		
Hawaii	62	
Porto Rico	9	
		71

ALIEN INMATES OF PENAL INSTITUTIONS.

Total alien inmates found in penal and reformatory institutions (juvenile delinquents are here included)		9,825
In continental institutions:		
North Atlantic States	6,156	
South Atlantic States	264	
North Central States	1,462	
South Central States	498	
Western States	1,295	
		9,675
In insular institutions:		
Hawaii	130	
Porto Rico	20	
		150

ALIEN INMATES OF INSTITUTIONS FOR INSANE.

Total alien inmates found in institutions for the insane		19,764
In continental institutions:		
North Atlantic States	10,747	
South Atlantic States	955	
North Central States	4,657	
South Central States	494	
Western States	2,815	
		19,668
In insular institutions:		
Hawaii	90	
Porto Rico	6	
		96

More than half the aliens detained in these institutions are in the States of New York, Pennsylvania, Massachusetts, and Illinois. It is pointed out that the four largest cities of the country are located in these States. The following table shows the character of institution and number of alien inmates in said four States: **Additional information, in detail by States, will be found in Chart No. 6.**

Location.	Character of institution and number of inmates in each.		Alien inmates.
New York	Insane	5,952	
	Penal	2,283	
	Charitable	4,205	
			12,440
Pennsylvania	Insane	1,352	
	Penal	1,265	
	Charitable	2,984	
			5,601
Massachusetts	Insane	2,304	
	Penal	1,430	
	Charitable	1,756	
			5,490
Illinois	Insane	2,478	
	Penal	227	
	Charitable	654	
			3,359

The succeeding tables show additional detail by percentages, races, character of institution, length of residence in the United States, section of country, etc.; also comparisons of aliens, naturalized foreigners, and citizens, without and within institutions. Special tables with regard to criminality are also presented.

Certain information showing inmates other than aliens on pages 788, 789, and 790 was gathered by the Census Office and furnished to this Bureau in advance of the regular compilation, and is subject to some slight change, which, however, will not affect the general proportions.

ALIENS DETAINED IN PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS, SHOWING, IN **PERCENTAGES**, THE SEX, AGE, CAUSE, AND YEARS IN THE UNITED STATES, BY RACIAL DIVISION.

Subdivision of race.	Alien inmates.	Sex.		Age.		Cause.					Years in the United States.										
						Criminals.*															
		Males.	Females.	Under 21.	21 and over.	Grave.	Minor.	Total.	Insane.	Paupers.	1.	2.	3.	4 and 5.	6 to 10.	11 to 20.	21 to 30.	31 to 40.	Over 40.	1 to 5.	6 and over.
		Perct.	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*	*Perct.*
African (black)	208	78	22	17	83	30	26	56	25	19	3	6	7	11	27	28	11	5	2	27	73
Armenian	59	88	12	14	86	10	7	17	41	42	12	12	.....	23	23	21	9	.....	.....	47	53
Bohemian and Moravian (Czech)	406	62	38	10	90	5	7	12	62	26	5	5	2	4	12	43	21	6	2	16	84
Bulgarian, Servian, and Montenegrin	7	100	.....	29	71	14	29	43	43	14	67	.....	.....	.....	.....	33	.....	.....	.....	67	33
Chinese	670	98	2	3	97	31	16	47	47	6	11	1	1	3	18	19	35	10	2	16	84
Croatian and Slovenian	129	95	5	16	84	8	28	36	21	43	24	13	12	20	8	21	2	.....	.....	69	31
Cuban	59	93	7	24	76	20	15	35	45	20	9	9	12	6	35	23	6	.....	.....	36	64
Dalmatian, Bosnian, and Herzegovinian	5	100	.....	.....	100	.....	20	20	40	40	.....	60	20	.....	.....	20	.....	.....	.....	80	20
Dutch and Flemish	183	81	19	10	90	11	15	26	44	30	7	6	3	7	11	34	14	14	4	23	77
East Indian	23	83	17	4	96	22	.....	22	70	8	.....	21	7	7	.....	43	22	.....	.....	35	65
English	4,248	68	32	10	90	10	16	26	44	30	4	3	2	6	12	31	18	14	10	15	85
Finnish	383	84	16	7	93	10	18	28	52	20	5	5	4	16	17	38	11	1	3	30	70
French	1,948	73	27	14	86	10	22	32	42	26	2	2	3	7	15	29	19	15	8	14	86
German	9,050	67	33	7	93	6	8	14	56	30	3	2	2	5	10	31	22	15	10	12	88
Greek	103	95	5	25	75	19	24	43	20	37	11	13	7	26	25	9	9	.....	.....	57	43
Hebrew	2,765	60	40	43	57	6	14	20	34	46	4	4	5	14	25	37	6	3	2	27	73
Irish	11,980	45	55	4	96	2	9	11	51	38	1	1	1	3	8	23	19	20	24	6	94
Italian	3,266	86	14	26	74	23	17	40	23	37	11	10	10	18	22	23	4	2	.....	49	51
Japanese	229	92	8	7	93	42	12	54	18	28	8	8	3	36	28	16	1	.....	.....	55	45
Korean	4	100	.....	.....	100	.....	50	50	25	25	100	.....	.....	.....	.....	.....	.....	.....	.....	100	.....
Lithuanian	196	90	10	10	90	11	27	38	10	52	10	9	10	19	21	27	4	.....	.....	48	52
Magyar	507	75	25	21	79	13	19	32	35	33	15	12	12	17	15	24	4	1	.....	56	44
Mexican	908	92	8	13	87	54	23	77	10	13	9	4	8	13	21	32	9	2	2	34	66
Pacific Islander	1	100	.....	.....	100	.....	.....	.....	100	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Polish	2,064	78	22	15	85	11	19	30	32	38	13	10	11	15	17	26	6	2	.....	49	51
Portuguese	183	76	24	11	89	9	10	19	50	31	4	3	5	9	14	30	22	6	7	21	79
Roumanian	52	87	13	31	69	17	23	40	16	44	27	11	9	24	16	13	.....	.....	.....	71	29
Russian	324	78	22	15	85	14	16	30	48	22	8	3	8	13	19	40	6	1	2	32	68
Ruthenian (Russniak)	20	100	.....	5	95	.....	10	10	30	60	11	11	21	26	.....	31	.....	.....	.....	69	31
Scandinavian (Norwegians, Danes, and Swedes)	3,125	68	32	5	95	5	8	13	65	22	4	4	3	8	12	35	19	11	4	19	81
Scotch	908	67	33	9	91	9	16	25	38	37	4	1	2	7	8	30	22	16	10	14	86
Slovak	438	82	18	12	88	7	22	29	22	49	15	10	13	20	15	23	4	.....	.....	58	42
Spanish	151	86	14	19	81	17	9	26	39	35	11	5	7	12	17	20	10	5	13	35	65
Spanish-American	42	90	10	14	86	17	14	31	24	45	4	4	22	13	22	9	9	4	13	43	57
Syrian	107	69	31	60	40	7	17	24	7	69	15	14	8	19	29	15	.....	.....	.....	56	44

| | | |

ALIENS DETAINED IN THE CHARITABLE INSTITUTIONS OF THE UNITED STATES.

[Institutions for insane not included.]

Subdivision of races.	Alien inmates.	Sex.		Age.		Cause.		Probable period of detention.			Jurisdiction of institution.		
		Male.	Female.	Under 21.	21 and over.	Insane.	Paupers.	Under 2 years.	2 years and over.	Life.	State.	County.	Private.
African (black)	43	26	17	10	33	3	40	23	5	15	6	17	20
Armenian	25	22	3	5	20	.....	25	19	3	3	3	14	8
Bohemian and Moravian (Czech)	116	77	39	24	92	9	107	36	24	56	8	85	23
Bulgarian, Servian, and Montenegrin	1	1	.....	1	.....	.....	1	1	.....	.....	.....	1	.....
Chinese	40	36	4	2	38	2	38	8	6	26	5	27	8
Croatian and Slovenian	60	56	4	13	47	4	56	49	2	9	5	30	25
Cuban	12	11	1	8	4	.....	12	6	6	.....	2	3	7
Dalmatian, Bosnian, and Herzegovinian	2	2	.....	.....	2	.....	2	2	.....	.....	.....	.....	2
Dutch and Flemish	57	46	11	5	52	3	54	11	4	42	5	42	10
East Indian	2	2	.....	.....	2	.....	2	2	.....	.....	.....	2	.....
English	1,309	785	524	189	1,120	62	1,247	352	160	797	248	700	361
Finnish	80	68	12	9	71	2	78	33	7	40	8	48	24
French	535	367	168	77	458	28	507	135	44	356	78	309	148
German	2,949	2,063	886	339	2,610	233	2,716	680	310	1,959	169	2,103	677
Greek	38	36	2	13	25	.....	38	33	2	3	6	19	13
Hebrew	1,274	693	581	831	443	3	1,271	297	580	397	39	356	879
Irish	4,599	1,914	2,685	324	4,275	194	4,405	1,152	431	3,016	565	2,640	1,394
Italian	1,230	985	245	575	655	15	1,215	643	372	215	96	432	702
Japanese	63	50	13	7	56	.....	63	50	2	11	1	13	49
Korean	1	1	.....	.....	1	.....	1	1	.....	.....	.....	.....	1
Lithuanian	104	90	14	9	95	3	101	76	4	24	16	51	37
Magyar	177	121	56	61	116	12	165	98	42	37	10	74	93
Mexican	117	74	43	51	66	3	114	22	48	47	4	64	49
Polish	839	643	196	142	697	62	777	430	97	312	89	489	261
Portuguese	57	38	19	12	45	.....	57	31	6	20	11	21	25
Roumanian	23	20	3	6	17	.....	23	19	2	2	3	7	13
Russian	78	50	28	20	58	8	70	42	25	11	14	31	33
Ruthenian (Russniak)	13	13	.....	.....	13	1	12	9	2	2	2	5	6
Scandinavian (Norwegians, Danes, and Swedes)	747	538	209	101	646	54	693	241	57	449	106	483	158
Scotch	342	197	145	37	305	8	334	100	24	218	50	186	106
Slovak	224	193	31	30	194	9	215	154	10	60	17	116	91
Spanish	54	48	6	20	34	.....	54	25	20	9	1	28	25
Spanish-American	19	17	2	4	15	.....	19	.....	3	16	1	9	9
Syrian	73	45	28	52	21	.....	73	22	48	3	6	12	55
Turkish	9	6	3	5	4	.....	9	4	3	2	2	3	4
Welsh	72	51	21	5	67	3	69	18	5	49	7	50	15
West Indian	12	6	6	5	7	.....	12	8	3	1	.....	4	8
Total	15,396	9,391	6,005	2,992	12,404	721	14,675	4,832	2,357	8,207	1,583	8,474	5,339

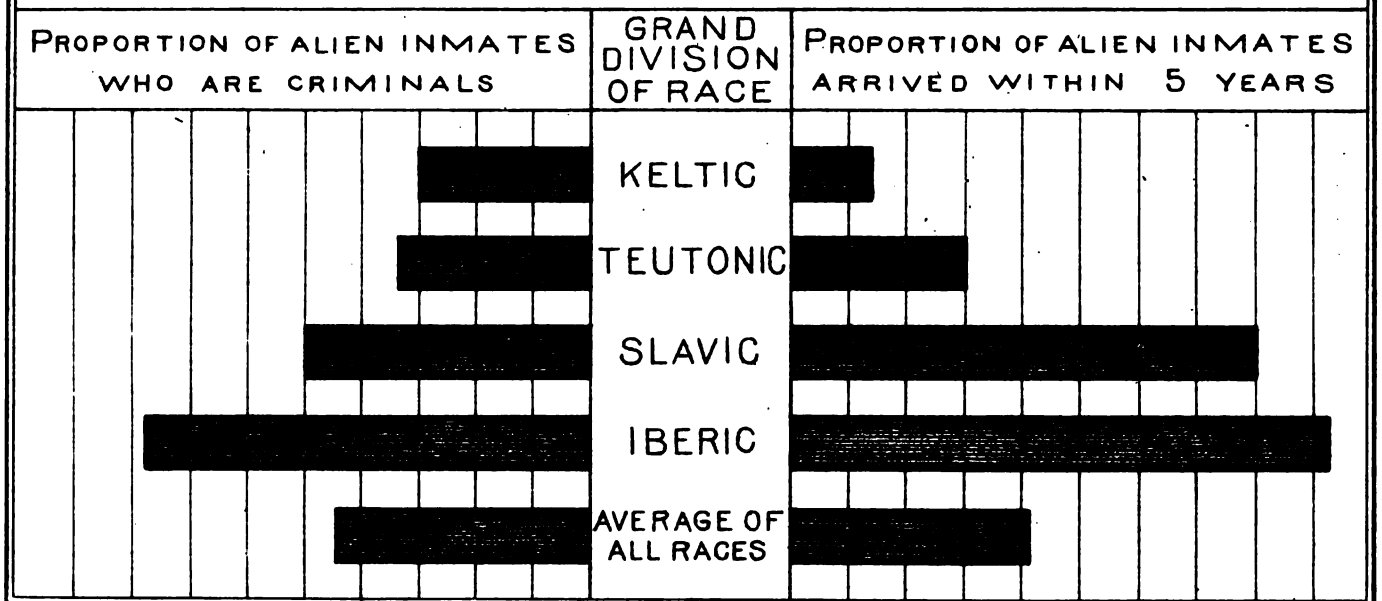
CHART 4.

FOR DESCRIPTION SEE PAGES 889-893

BUREAU OF IMMIGRATION

F. P. SARGENT COMMISSIONER-GENERAL.

ALIENS DETAINED IN PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS, SHOWING FOR EACH RACE THE RATIO OF CRIMINALITY, AND THAT SAID RATIO CORRESPONDS LARGELY TO THE PROPORTION OF RECENT ARRIVALS



UNIV OF MICH.

ALIENS DETAINED IN INSTITUTIONS FOR THE INSANE.

Subdivision of races.	Alien inmates.	Sex.		Age.		Cause.	Probable period of detention.			Jurisdiction of institution.			
		Male.	Female.	Under 21.	21 and over.	Insane.	Under 2 years.	2 years and over.	Life.	Federal.	State.	County.	Private.
African (black)	49	33	16	4	45	49	5	8	36	.....	49	.....	.....
Armenian	24	20	4	.....	24	24	1	2	21	.....	24	.....	.....
Bohemian and Moravian (Czech)	242	131	111	3	239	242	19	33	190	2	193	45	2
Bulgarian, Servian, and Montenegrin	3	3	.....	.....	3	3	.....	.....	3	.....	3	.....	.....
Chinese	315	308	7	1	314	315	19	22	274	.....	311	4	.....
Croatian and Slovenian	23	20	3	.....	23	23	7	2	14	.....	18	5	.....
Cuban	26	23	3	1	25	26	2	1	23	.....	23	.....	3
Dalmatian, Bosnian, and Herzegovinian	2	2	.....	.....	2	2	.....	1	1	.....	2	.....	.....
Dutch and Flemish	78	60	18	1	77	78	5	6	67	2	67	9	.....
East Indian	16	12	4	.....	16	16	1	.....	15	.....	13	3	.....
English	1,822	1,075	747	47	1,775	1,822	122	189	1,561	85	1,633	96	8
Finnish	196	149	47	3	193	196	27	20	149	3	184	9	.....
French	795	513	282	15	780	795	44	52	699	10	732	53	.....
German	4,808	2,770	2,038	67	4,741	4,808	270	408	4,130	218	3,937	642	11
Greek	21	18	3	1	20	21	3	6	12	.....	21	.....	.....
Hebrew	932	492	440	50	882	932	157	111	664	2	890	40	.....
Irish	5,943	2,301	3,642	15	5,928	5,943	257	292	5,394	251	5,205	476	11
Italian	718	544	174	19	699	718	104	75	539	15	643	56	4
Japanese	42	38	4	2	40	42	6	7	29	1	41	.....	.....
Korean	1	1	.....	.....	1	1	1	.....	.....	.....	1	.....	.....
Lithuanian	17	15	2	.....	17	17	2	4	11	.....	10	7	.....
Magyar	169	108	61	4	165	169	10	21	138	6	148	14	1
Mexican	90	67	23	4	86	90	2	19	69	4	86	.....	.....
Pacific Islander	1	1	.....	.....	1	1	.....	.....	1	.....	1	.....	.....
Polish	605	395	210	19	586	605	60	76	469	14	488	103	.....
Portuguese	91	67	24	2	89	91	7	8	76	1	90	.....	.....
Roumanian	8	4	4	1	7	8	1	.....	7	.....	6	2	.....
Russian	146	106	40	6	140	146	24	30	92	7	93	43	3
Ruthenian (Russniak)	5	5	.....	.....	5	5	3	1	1	.....	2	3	.....
Scandinavian (Norwegians, Danes, and Swedes)	1,985	1,244	741	10	1,975	1,985	148	242	1,595	25	1,697	258	5
Scotch	332	199	133	5	327	332	19	17	296	5	303	23	1
Slovak	86	41	45	1	85	86	13	9	64	.....	71	15	.....
Spanish	58	43	15	.....	58	58	7	4	47	5	47	4	2
Spanish-American	10	8	2	.....	10	10	1	.....	9	.....	9	1	.....
Syrian	8	7	1	1	7	8	1	1	6	.....	7	.....	1
Turkish	16	16	.....	.....	16	16	3	1	12	1	14	1	.....
Welsh	75	45	30	.....	75	75	5	3	67	3	67	5	.....
West Indian	6	4	2	1	5	6	2	.....	4	.....	4	2	.....
Total	19,764	10,888	8,876	283	19,481	19,764	1,358	1,621	16,785	660	17,133	1,919	52

ALIENS DETAINED IN THE **PENAL INSTITUTIONS** OF THE UNITED STATES.

Subdivision of races.	Alien inmates.	Sex.		Age.		Cause.		Probable period of detention.			Jurisdiction of institution.		
		Males.	Females.	Under 21.	21 and over.	Criminals.		Under 2 years.	2 years and over.	Life.	Federal.	State.	County.
						Grave.	Minor.						
African (black)	116	108	18	21	95	62	54	40	72	4	1	62	53
Armenian	10	10	.....	3	7	6	4	2	8	.....	.....	10	.....
Bohemian and Moravian (Czech)	48	42	6	12	36	20	28	24	19	5	.....	23	25
Bulgarian, Servian, and Montenegrin	3	3	.....	1	2	1	2	1	2	.....	.....	1	2
Chinese	315	315	.....	18	297	207	108	137	146	32	5	144	166
Croatian and Slovenian	46	46	.....	8	38	10	36	30	11	5	.....	13	33
Cuban	21	21	.....	5	16	12	9	9	11	1	.....	14	7
Dalmatian, Bosnian, and Herzegovinian	1	1	.....	.....	1	.....	1	1	.....	.....	.....	.....	1
Dutch and Flemish	48	42	6	12	36	21	27	25	21	2	1	34	13
East Indian	5	5	.....	1	4	5	.....	.....	5	.....	.....	2	3
English	1,117	1,023	94	177	940	420	697	516	580	21	9	667	441
Finnish	107	103	4	14	93	40	67	52	53	2	1	60	46
French	618	541	77	189	429	197	421	290	313	15	5	360	253
German	1,293	1,191	102	267	1,026	587	706	517	724	52	4	720	569
Greek	44	44	.....	12	32	19	25	18	25	1	.....	28	16
Hebrew	559	484	75	325	234	170	389	186	367	6	.....	240	319
Irish	1,438	1,208	230	103	1,335	283	1,155	1,025	398	20	2	595	841
Italian	1,318	1,273	45	269	1,049	755	563	400	853	65	7	849	462
Japanese	124	122	2	7	117	96	28	37	81	6	2	80	42
Korean	2	2	.....	.....	2	.....	2	2	.....	.....	.....	1	1
Lithuanian	75	72	3	10	65	21	54	57	18	.....	1	17	57
Magyar	162	151	11	39	123	67	95	72	86	4	.....	66	96
Mexican	700	690	10	59	641	495	205	245	395	60	.....	463	237
Polish	620	563	57	156	464	227	393	338	271	13	1	277	342
Portuguese	35	34	1	6	29	16	19	18	17	.....	.....	17	18
Roumanian	21	21	.....	9	12	9	12	6	15	.....	.....	15	6
Russian	100	97	3	24	76	47	53	36	63	1	.....	63	37
Ruthenian (Russniak)	2	2	.....	1	1	.....	2	2	.....	.....	.....	.....	2
Scandinavian (Norwegians, Danes, and Swedes)	393	357	36	54	339	155	238	193	192	8	2	205	186
Scotch	229	207	22	41	188	80	149	127	95	7	.....	119	110
Slovak	128	127	1	21	107	30	98	86	41	1	.....	40	88
Spanish	39	39	.....	8	31	25	14	17	20	2	.....	19	20
Spanish-American	13	13	.....	2	11	7	6	8	9	1	.....	8	5
Syrian	26	22	4	11	15	8	18	15	10	1	.....	12	14
Turkish	13	13	.....	7	6	6	7	1	11	1	.....	12	1
Welsh	28	25	3	4	24	15	13	13	12	3	.....	16	12
West Indian	8	8	.....	2	6	5	3	2	6	.....	.....	7	1
Total	9,825	9,020	805	1,898	7,927	4,124	5,701	4,541	4,945	339	41	5,259	4,525

PROPORTION OF ALIEN POPULATION COMPARED WITH PROPORTION OF ALIEN INMATES OF PUBLIC INSANE AND CHARITABLE INSTITUTIONS.

[Inmates of penal and private charitable institutions not included in this table.]

States.	Population.			Inmates of institutions.		
	Total.	Alien.	Per cent of aliens.	Total.	Alien.	Per cent of aliens.
NORTH ATLANTIC STATES.						
Maine	694,466	17,272	2 4/10	2,038	101	5
New Hampshire	411,588	12,924	3	1,700	197	12
Vermont	343,641	6,979	2	1,302	105	8
Massachusetts	2,805,346	129,854	5	15,513	3,799	24
Rhode Island	428,556	17,461	4	1,870	275	15
Connecticut	906,420	34,681	4	5,143	482	9
New York	7,268,894	196,337	3	39,127	7,983	20
New Jersey	1,883,669	46,651	2 4/10	7,270	844	12
Pennsylvania	6,302,115	147,998	2 9/10	22,436	3,029	14
Total	21,046,695	610,157	3	96,399	16,815	17
NORTH CENTRAL STATES.						
Ohio	4,157,545	26,604	6/10	18,145	637	4
Indiana	2,516,462	3,287	1/10	8,555	583	7
Illinois	4,821,550	52,612	1	16,418	3,102	19
Michigan	2,420,982	37,697	1 4/10	8,568	496	6
Wisconsin	2,069,042	17,986	7/10	7,249	1,049	14
Minnesota	1,751,394	24,946	1 4/10	5,424	486	9
Iowa	2,231,853	11,431	5/10	7,285	123	2
Missouri	3,106,665	10,792	3/10	7,885	425	5
North Dakota	319,146	5,585	1 7/10	655	47	7
South Dakota	401,570	2,490	6/10	806	21	3
Nebraska	1,066,300	4,954	4/10	2,337	164	7
Kansas	1,470,495	2,589	2/10	3,635	143	4
Total	26,333,004	200,923	8/10	86,962	7,276	8
WESTERN STATES.						
Montana	243,329	8,045	3	795	337	42
Wyoming	92,531	2,788	3	99	20	20
Colorado	539,700	6,990	1 3/10	1,187	211	18
New Mexico	195,310	2,251	1 1/10	113	9	8
Arizona	122,931	6,800	6	360	93	26
Utah	276,749	3,812	1 4/10	529	46	9
Nevada	42,335	2,151	5	382	118	31
Idaho	161,772	3,291	2	332	45	14
Washington	518,103	14,066	3	1,549	411	27
Oregon	413,536	13,320	3	1,518	417	27
California	1,485,053	75,187	5	10,428	1,884	18
Total	4,091,349	138,701	3	17,292	3,541	20
SOUTH ATLANTIC STATES.						
Delaware	184,735	1,328	7/10	633	21	3
Maryland	1,188,044	6,137	1/10	4,272	551	13
District of Columbia	278,718	1,682	6/10	2,689	699	26
Virginia	1,854,184	1,698	1/100	4,881	57	1
West Virginia	958,800	3,750	4/10	2,546	22	1
North Carolina	1,893,810	339	1/100	3,429	.....	.....
South Carolina	1,340,316	565	1/100	1,854	.....	.....
Georgia	2,216,331	1,120	1/100	3,908	.....	.....
Florida	528,542	2,825	5/10	850	60	7
Total	10,443,480	19,444	2/10	25,062	1,410	6
SOUTH CENTRAL STATES.						
Kentucky	2,147,174	1,730	1/100	4,923	205	4
Tennessee	2,020,616	1,260	1/100	3,462	27	8/10
Alabama	1,828,697	1,069	1/100	2,380	.....	.....
Mississippi	1,551,270	1,000	1/100	2,045	33	1 6/10
Louisiana	1,381,625	7,838	5/10	1,714	145	8
Texas	3,048,710	17,904	6/10	4,295	211	5
Indian Territory	392,060	430	1/10	.....	.....	.....
Oklahoma	398,331	308	1/100	474	3	6/10
Arkansas	1,311,564	881	1/100	1,238	.....	.....
Total	14,080,047	32,370	2/10	20,531	624	3
Grand total	75,994,575	1,001,595	1 3/10	246,246	29,666	12

COMPARISON OF **NATIVE, NATURALIZED, AND ALIEN POPULATION, AND NATIVE, NATURALIZED, AND ALIEN INMATES OF** PUBLIC INSANE AND CHARITABLE INSTITUTIONS, BY SECTION OF COUNTRY (ALASKA, HAWAII, AND PORTO RICO NOT INCLUDED).

[Inmates of penal and private charitable institutions not included in this table.]

Section of country.	Native born.	Foreign born.			Total.
		Naturalized.	Alien.	Total foreign.	
NORTH ATLANTIC STATES.					
Population.					
Number	16,283,899	4,152,639	610,157	4,762,796	21,046,695
Per cent	77	20	3	23	100
Inmates of public insane and charitable institutions.					
Number	56,662	22,922	16,815	39,737	96,399
Per cent	59	24	17	41	100
NORTH CENTRAL STATES.					
Population.					
Number	22,174,530	3,957,551	200,923	4,158,474	26,333,004
Per cent	84	15	1	16	100
Inmates of public insane and charitable institutions.					
Number	58,515	21,171	7,276	28,447	86,962
Per cent	67	24	9	33	100
WESTERN STATES.					
Population.					
Number	3,245,028	707,620	188,701	846,321	4,091,349
Per cent	79	17¼	3¼	21	100
Inmates of public insane and charitable institutions.					
Number	8,713	5,038	3,541	8,579	17,292
Per cent	50	29	21	50	100
SOUTH ATLANTIC STATES.					
Population.					
Number	10,227,450	196,586	19,444	216,030	10,443,480
Per cent	97 9/10	1 9/10	1/10	2 1/10	100
Inmates of public insane and charitable institutions.					
Number	22,750	902	1,410	2,312	25,062
Per cent	91	3 6/10	5 4/10	9	100
SOUTH CENTRAL STATES.					
Population.					
Number	13,722,392	325,285	32,370	357,655	14,080,047
Per cent	97 4/10	2 3/10	2/10	2 5/10	100
Inmates of public insane and charitable institutions.					
Number	18,943	964	624	1,588	20,531
Per cent	92	5	3	8	100
TOTAL.					
Population.					
Number	65,653,299	9,339,681	1,001,595	10,341,276	75,994,575
Per cent	86	12 3/10	1 3/10	14	100
Inmates of public insane and charitable institutions.					
Number	165,583	50,997	29,666	80,663	246,246
Per cent	67	21	12	33	100

COMPARISON OF ALIENS AND CITIZENS WITHIN AND WITHOUT PUBLIC INSANE AND CHARITABLE INSTITUTIONS.

[Inmates of penal and private charitable institutions not included in this table.]

	Aliens within.	Aliens without.	Citizens within.	Citizens without.	Aliens without.	Citizens without.	Aliens within.	Citizens within.
Number.....	29,666	971,929	216,580	74,776,400	971,929	74,776,400	29,666	216,580
Proportion...	30 to 1,000		3 to 1,000		13 to 1,000		137 to 1,000	

COMPARISON OF FOREIGN BORN AND NATIVES WITHIN AND WITHOUT PUBLIC INSANE AND CHARITABLE INSTITUTIONS.

[Inmates of penal and private charitable institutions not included in this table.]

	Foreign born within.	Foreign born without.	Natives within.	Natives without.	Foreign born without.	Natives without.	Foreign born within.	Natives within.
Number.....	80,663	10,260,613	165,583	65,487,716	10,260,613	65,487,716	80,663	165,583
Proportion...	8 to 1,000		2½ to 1,000		160 to 1,000		488 to 1,000	

NUMBER AND PROPORTION OF ALIEN INMATES OF EACH CLASS OF INSTITUTION AND ALL INSTITUTIONS, BELONGING TO EACH RACIAL DIVISION.

Subdivision of race.	Class of institution.							
	Charitable.		Insane.		Penal.		All.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
African (black)	43	1/10	49	1/10	116	1 2/10	208	1/10
Armenian	25	1/10	24	1/10	10	1/10	59	1/10
Bohemian and Moravian (Czech)	116	1/10	242	1 2/10	48	1/10	406	1/10
Bulgarian, Servian, and Montenegrin	1	1/100	3	1/100	3	1/100	7	1/100
Chinese	40	1/10	315	1 2/10	315	3 2/10	670	1 1/10
Croatian and Slovenian	60	1/10	23	1/10	46	1/10	129	1/10
Cuban	12	1/100	26	1/10	21	1/10	59	1/10
Dalmatian, Bosnian, and Herzegovinian	2	1/100	2	1/100	1	1/100	5	1/100
Dutch and Flemish	57	1/10	78	1/10	48	1/10	183	1/10
East Indian	2	1/100	16	1/100	5	1/100	23	1/100
English	1,309	8 1/10	1,822	9	1,117	11	4,248	9
Finnish	80	1/10	196	1	107	1 1/10	383	1/10
French	585	3 4/10	795	4	618	6	1,948	4 4/10
German	2,949	19	4,808	24	1,293	13	9,050	20
Greek	38	1/10	21	1	44	1/10	103	1/10
Hebrew	1,274	8	932	5	559	6	2,765	6
Irish	4,599	30	5,943	30	1,438	15	11,980	27
Italian	1,230	8	718	3 6/10	1,318	13 6/10	3,266	7 3/10
Japanese	63	1/10	42	1/10	124	1 2/10	229	1/10
Korean	1	1/100	1	1/100	2	1/100	4	1/100
Lithuanian	104	1/10	17	1/100	75	1/10	196	1/10
Magyar	177	1	169	1/10	162	1 7/10	507	1
Mexican	117	1/10	90	1/10	700	7	908	2
Pacific Islander			1	1/100			1	
Polish	839	5 4/10	605	3	620	6	2,064	5
Portuguese	57	1/10	91	1/10	35	1/10	183	1/10
Roumanian	28	1/100	8	1/100	21	1/10	52	1/10
Russian	78	1/10	146	1/10	100	1	324	1/10
Ruthenian (Russniak)	13	1/100	5	1/100	2	1/100	20	1/100
Scandinavian (Norwegians, Danes, and Swedes)	747	5	1,985	10	393	4	3,125	7
Scotch	342	2	332	1 7/10	229	2 3/10	903	2
Slovak	224	1 4/10	86	4/10	128	1 3/10	438	1
Spanish	54	3/10	58	3/10	39	3/10	151	3/10
Spanish-American	19	1/100	10	1/100	13	1/10	42	1/10
Syrian	73	1/10	8	1/100	26	1/10	107	1/10
Turkish	9	1/100	16	1/100	13	1/10	38	1/100
Welsh	72	4/10	75	4/10	28	3/10	175	4/10
West Indian	12	1/100	6	1/100	8	1/100	26	1/100
Total	15,396	100	19,764	100	9,825	100	44,985	100

NUMBER AND PROPORTION OF ALIEN INMATES OF EACH CLASS OF INSTITUTION AND ALL INSTITUTIONS, BELONGING TO EACH RACIAL DIVISION—Continued.

Subdivision of race.	Class of institution.							
	Charitable.		Insane.		Penal.		All.	
	Number.	Per cent of charitable.	Number.	Per cent of insane.	Number.	Per cent of penal.	Number.	Per cent of all.
Grand division of races.[a]								
Teutonic	5,142	33	8,889	45	2,958	30	16,989	38
Keltic	5,548	36	7,145	36	2,313	23	15,006	33
Slavic	2,734	18	2,069	10	1,603	16	6,406	14
Iberic	1,452	9	896	5	1,462	15	3,810	9
Mongolic	106	1	375	2	446	5	927	2

[a] See pages 891 and 892 for race classification.

ALIENS DETAINED IN PENAL INSTITUTIONS FOR MURDER AND ATTEMPT TO MURDER BY SECTION OF COUNTRY AND SUBDIVISION OF RACE.

Subdivision of races.	Murder.								Attempt to murder.							
	North Atlantic section.	South Atlantic section.	North Central section.	South Central section.	Western section.	Hawaii.	Porto Rico.	Total.	North Atlantic section.	South Atlantic section.	North Central section.	South Central section.	Western section.	Hawaii.	Porto Rico.	Total.
African (black)	2	1	....	1	....	....	1	5	2	4	1	....	1	....	....	8
Armenian	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	1
Bohemian and Moravian (Czech)	1	....	3	2	....	....	....	6	....	....	....	....	....	....	....	....
Chinese	9	....	....	....	40	4	....	53	1	....	....	....	6	1	....	8
Croatian and Slovenian	3	....	1	....	....	....	....	4	5	....	....	....	....	....	....	5
Cuban	....	2	....	....	1	....	....	3	....	1	....	....	....	....	1	2
Dutch and Flemish	1	....	2	....	....	....	....	3	1	....	....	....	....	....	....	1
East Indian	....	....	1	....	2	....	....	3	....	....	....	....	....	....	....	....
English	18	1	8	3	12	....	....	42	8	....	3	....	....	....	....	11
Finnish	4	....	6	....	2	....	....	12	3	....	3	....	4	....	....	10
French	10	1	7	2	8	....	....	28	8	....	2	1	....	....	....	11
German	32	3	34	4	19	....	....	92	8	2	8	....	3	....	....	21
Greek	2	....	....	....	....	....	....	2	2	....	....	1	....	....	....	3
Hebrew	1	1	1	....	....	....	....	3	4	....	5	....	....	....	....	9
Irish	22	3	8	2	4	....	....	39	10	1	2	....	1	....	....	14
Italian	192	9	25	7	20	1	....	254	109	3	15	1	11	....	....	139
Japanese	....	....	....	....	8	18	....	26	....	....	....	....	2	3	....	5
Lithuanian	2	....	....	1	....	....	....	3	4	....	1	....	....	....	....	5
Magyar	17	....	6	....	1	....	....	24	4	....	1	....	....	....	....	5
Mexican	....	1	1	96	23	....	....	121	....	....	....	41	15	....	....	56
Polish	35	....	4	....	2	....	....	41	21	....	5	....	1	....	....	27
Portuguese	....	....	1	....	2	....	....	3	1	....	....	....	....	....	....	1
Roumanian	....	....	1	....	....	....	....	1	....	....	....	....	....	....	....	....
Russian	10	....	3	1	....	....	....	14	4	....	3	....	....	....	....	7
Scandinavian (Norwegians, Danes, and Swedes)	5	1	4	1	11	....	....	22	2	....	4	....	2	....	....	8
Scotch	4	....	2	....	....	....	....	6	....	1	....	....	....	....	....	1
Slovak	5	1	4	....	1	....	....	11	10	....	3	1	....	....	....	14
Spanish	....	....	....	....	3	....	2	5	2	....	....	....	....	....	....	2
Syrian	1	....	1	....	....	....	....	2	2	....	....	....	1	....	....	3
Turkish	2	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....
Welsh	1	....	2	1	....	....	....	4	....	....	....	....	1	....	....	1
West Indian	1	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....
Total	380	24	125	121	159	23	3	835	212	12	56	45	48	4	1	378

ALIEN MURDERERS DETAINED IN PENAL INSTITUTIONS, BY SECTION OF COUNTRY AND **GRAND DIVISION OF RACE**, SHOWING ALSO THE PER CENT IN EACH SECTION OF COUNTRY BELONGING TO EACH RACIAL GRAND DIVISION.

Grand division of race.[a]	North Atlantic section.		South Atlantic section.		North Central section.		South Central section.		Western section.		Hawaii.		Porto Rico.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Teutonic	60	16	5	21	54	43	8	7	44	28	....	.....	....	.....	171	20
Keltic	37	10	4	17	19	15	5	4	12	7	....	.....	....	.....	77	9
Slavic	57	15	2	8	17	13	4	3	3	2	....	.....	....	.....	83	10
Iberic	195	51	9	37	27	22	7	6	25	16	1	4	2	67	266	32
Mongolic	9	2	....	.....	1	1	....	.....	50	31	22	96	....	.....	82	10
All others	22	6	4	17	7	6	97	80	25	16	....	.....	1	33	156	19
Total	380	100	24	100	125	100	121	100	159	100	23	100	3	100	835	100

ALIENS DETAINED IN PENAL INSTITUTIONS FOR **ATTEMPT TO MURDER**, BY SECTION OF COUNTRY AND **GRAND DIVISION OF RACE**, SHOWING ALSO THE PER CENT IN EACH SECTION BELONGING TO EACH RACIAL GRAND DIVISION.

Grand division of race.[a]	North Atlantic section.		South Atlantic section.		North Central section.		South Central section.		Western section.		Hawaii.		Porto Rico.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Teutonic	22	11	2	17	18	32	....	.....	9	19	....	.....	....	.....	51	14
Keltic	18	8	2	17	4	7	1	2	2	4	....	.....	....	.....	27	7
Slavic	48	23	....	.....	17	30	1	2	1	2	....	.....	....	.....	67	18
Iberic	116	55	3	25	15	27	2	5	12	25	....	.....	....	.....	148	39
Mongolic	1	.....	....	.....	....	.....	....	.....	8	17	4	100	....	.....	13	3
All others	7	3	5	41	2	4	41	91	16	33	....	.....	1	100	72	19
Total	212	100	12	100	56	100	45	100	48	100	4	100	1	100	378	100

ALL ALIENS IN PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS OF EACH SECTION OF COUNTRY, BY GRAND DIVISION OF RACE, SHOWING THE PER CENT OF ALIEN INMATES OF EACH SECTION BELONGING TO EACH **RACIAL GRAND DIVISION.**

Grand division of race.[a]	North Atlantic section.		South Atlantic section.		North Central section.		South Central section.		Western section.		Hawaii.		Porto Rico.		Total.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Teutonic	7,750	28	926	49	5,719	63	408	32	2,177	43	11	4	3	9	16,989	38
Keltic	11,007	40	649	34	1,858	20	334	26	1,156	23	1	.....	1	3	15,006	33
Slavic	4,895	18	160	8	1,079	12	65	5	202	4	4	1½	1	3	6,406	14
Iberic	2,898	11	97	5	268	3	69	5	431	8	31	11	16	45	3,510	9
Mongolic	126	½	4	.....	20	.....	2	.....	546	11	228	81	1	3	927	2
All others	625	2½	73	4	138	2	409	32	582	11	7	2½	13	37	1,847	4
Total	27,301	100	1,909	100	9,082	100	1,282	100	5,094	100	282	100	35	100	44,985	100

[a] See pages 891 and 892 for race classification.

ALIENS DETAINED IN PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS OF THE NORTH ATLANTIC STATES.

[North Atlantic States: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania.]

Subdivision of race, and character of institution in which confined.	Alien inmates.	Sex.		Age.		Cause.				Probable period of detention.			Jurisdiction of institution.		
		Male.	Female.	Under 21.	21 and over.	Criminals.		Insane.	Paupers.	Under 2 years.	2 years and over.	Life.	State.	County.	Private.
						Grave.	Minor.								
SUBDIVISION OF RACE.															
African (black)	127	93	34	25	102	28	34	38	27	44	43	40	73	42	12
Armenian	48	44	4	6	42	5	4	19	20	19	9	20	31	14	3
Bohemian and Moravian (Czech)	124	67	57	21	103	3	8	80	33	25	24	75	80	28	16
Bulgarian, Servian, and Montenegrin	2	2			2		1	1			1	1	2		
Chinese	105	103	2	8	97	51	27	16	11	34	51	20	78	24	3
Croatian and Slovenian	92	85	7	16	76	9	27	13	43	68	13	11	25	50	17
Cuban	24	20	4	7	17	2	7	8	7	10	7	7	10	7	7
Dalmatian, Bosnian, and Herzegovinian	3	3			3		1		2	3				1	2
Dutch and Flemish	62	49	13	8	54	7	14	21	20	25	10	27	36	18	8
East Indian	7	5	2		7			6	1	1		6	4	3	
English	2,592	1,613	979	325	2,267	185	496	1,063	848	708	464	1,425	1,525	766	301
Finnish	116	86	30	10	106	8	31	41	36	50	18	48	60	35	21
French	1,241	859	382	215	1,026	104	338	472	327	382	236	623	711	416	114
German	4,067	2,516	1,551	482	3,585	303	417	2,079	1,268	903	639	2,525	2,183	1,423	461
Greek	71	66	5	20	51	11	19	16	25	38	25	8	45	16	10
Hebrew	2,463	1,465	998	1,133	1,330	142	361	800	1,160	541	950	972	1,014	647	802
Irish	9,117	3,716	5,401	402	8,715	147	1,006	4,510	3,454	2,135	699	6,283	4,989	2,979	1,149
Italian	2,610	2,224	386	764	1,846	614	478	469	1,049	979	1,090	541	1,216	746	648
Japanese	14	11	3	4	10	1	5	5	3	3	7	4	8	6	
Lithuanian	170	152	18	17	153	17	51	15	87	119	22	29	40	93	37
Magyar	375	272	103	92	283	55	75	122	123	129	120	126	157	141	77
Mexican	1	1		1			1				1			1	
Polish	1,432	1,095	337	246	1,186	174	311	410	537	652	296	484	580	634	218
Portuguese	77	50	27	12	65	9	12	23	33	34	16	27	45	15	17
Roumanian	32	26	6	13	19	8	9	4	11	12	15	5	17	9	6
Russian	181	141	40	29	152	35	31	75	40	65	61	55	90	72	19
Ruthenian (Russniak)	19	19		1	18		2	5	12	13	3	3	4	9	6
Scandinavian (Norwegians, Danes, and Swedes)	913	569	344	72	841	36	121	485	271	281	95	537	555	234	124
Scotch	562	325	237	60	502	45	100	182	235	181	72	309	284	188	90
Slovak	377	310	67	45	332	15	92	84	186	227	41	109	106	192	79
Spanish	65	54	11	17	48	7	7	25	26	23	20	22	26	23	16
Spanish-American	7	6	1	3	4		2	3	2	1	1	5	3	2	2
Syrian	75	52	23	49	26	5	11	5	54	25	45	5	19	16	40
Turkish	25	22	3	12	13	3	7	7	8	6	12	7	18	3	4

Welsh	87	57	30	5	82	7	9	32	39	26	10	51	36	38	13
West Indian	18	13	5	8	10	3	2	3	10	8	7	3	6	4	8
Total	27,301	16,191	11,110	4,128	23,173	2,089	4,117	11,137	10,008	7,765	5,123	14,413	14,076	8,895	4,330
CHARACTER OF INSTITUTION IN WHICH CONFINED.															
Charitable	10,398	5,885	4,513	2,505	7,898	.....	.....	390	10,008	3,857	1,750	4,791	1,228	4,862	4,313
Insane	10,747	4,799	5,948	225	10,522	.....	.....	10,747	.....	774	474	9,499	9,811	919	17
Penal	6,156	5,507	649	1,398	4,758	2,089	4,117	.....	.....	3,134	2,899	123	3,042	3,114	.....
Total, all institutions	27,301	16,191	11,110	4,128	23,173	2,089	4,117	11,137	10,008	7,765	5,123	14,413	14,076	8,895	4,330

LENGTH OF TIME IN THE UNITED STATES.

Character of institution in which confined.	1 year.	2 years.	3 years.	4 and 5 years.	6 to 10 years.	11 to 20 years.	21 to 30 years.	31 to 40 years.	Over 40 years.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Charitable	7	5	5	8	9	21	13	15	17
Insane	1	1	2	5	13	36	21	14	7
Penal	4	5	6	14	21	33	10	5	2
Total, all institutions	5	4	5	9	14	29	14	11	9

PORTS OF LANDING.

Port.	Per cent.	Port.	Per cent.	Port.	Per cent.
New York	72	Baltimore	7	Canadian ports	12½
Boston	3	San Francisco	½	All other ports	2
Philadelphia	3				

ALIENS DETAINED IN PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS OF THE SOUTH ATLANTIC STATES.

[South Atlantic States: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.]

Subdivision of races and character of institution in which confined.	Alien inmates.	Sex.		Age.		Cause.				Probable period of detention.			Jurisdiction of institution.			
		Male.	Female.	Under 21.	21 and over.	Criminal.		Insane.	Paupers.	Under 2 years.	2 years and over.	Life.	Federal.	State.	County.	Private.
						Grave.	Minor.									
SUBDIVISION OF RACES.																
African (black)	28	24	4	4	24	14	7	1	6	8	14	6	1	7	14	6
Bohemian and Moravian (Czech)	13	6	7	.....	13	.....	.....	7	6	3	6	4	2	2	5	4
Chinese	2	2	.....	.....	2	1	.....	1	.....	.....	2	.....	.....	.....	2	.....
Croatian and Slovenian	3	3	.....	.....	3	.....	.....	2	1	2	.....	1	.....	2	.....	1
Cuban	21	21	.....	1	20	2	2	16	1	2	3	16	.....	17	3	1
Dutch and Flemish	11	11	.....	1	10	.....	2	7	2	1	3	7	2	7	2	.....
East Indian	1	1	.....	1	.....	1	.....	.....	.....	.....	1	.....	.....	.....	1	.....
English	207	178	29	7	200	18	28	129	32	39	58	110	92	75	25	15
Finnish	6	5	1	1	5	.....	2	4	.....	1	2	3	3	3	.....	.....
French	25	18	7	.....	25	4	1	13	7	7	5	13	11	7	5	2
German	645	486	159	7	638	15	28	406	196	96	145	404	220	148	218	59
Greek	5	5	.....	.....	5	2	1	1	1	1	2	2	.....	2	3	.....
Hebrew	33	27	6	10	23	4	6	6	17	9	16	8	2	12	3	16
Irish	590	390	200	8	582	10	28	320	232	77	120	393	252	88	160	95
Italian	83	79	4	9	74	25	18	29	11	25	35	23	21	43	14	5
Japanese	1	1	.....	.....	1	.....	.....	1	.....	.....	.....	1	1	.....	.....	.....
Lithuanian	2	2	.....	.....	2	.....	.....	2	.....	.....	.....	2	.....	2	.....	.....
Magyar	17	15	2	.....	17	1	3	11	2	5	4	8	6	7	2	2
Mexican	5	4	1	.....	5	1	.....	4	.....	.....	2	3	4	1	.....	.....
Polish	53	47	6	1	52	1	7	31	14	14	17	22	14	16	18	5
Portuguese	1	1	.....	.....	1	.....	.....	1	.....	.....	.....	1	1	.....	.....	.....
Roumanian	3	3	.....	1	2	.....	.....	2	1	.....	3	.....	.....	2	1	.....
Russian	50	34	16	7	43	.....	8	27	15	16	23	11	7	15	13	15
Scandinavian (Norwegians, Danes, and Swedes)	57	54	3	3	54	4	9	36	8	13	14	30	26	16	12	3
Scotch	28	23	5	1	27	2	3	8	15	6	8	14	5	7	11	5
Slovak	3	3	.....	.....	3	2	.....	1	.....	.....	2	1	.....	3	.....	.....
Spanish	5	4	1	.....	5	.....	.....	5	.....	.....	1	4	5	.....	.....	.....
Spanish-American	1	1	.....	.....	1	.....	.....	1	.....	1	.....	.....	.....	1	.....	.....
Syrian	3	3	.....	.....	3	.....	2	1	.....	3	.....	.....	.....	1	2	.....
Turkish	1	1	.....	.....	1	.....	.....	1	.....	.....	1	.....	1	.....	.....	.....
Welsh	6	5	1	.....	6	.....	.....	4	2	.....	3	3	3	.....	2	1
Total	1,909	1,457	452	62	1,847	107	157	1,077	568	332	487	1,090	679	479	516	235

CHARACTER OF INSTITUTION IN WHICH CONFINED.																
Charitable	690	405	285	26	664	.....	.....	122	568	146	242	302	.....	39	423	228
Insane	955	800	155	5	950	.....	.....	955	.....	57	116	782	660	288	.....	7
Penal	264	252	12	31	233	107	157	.....	.....	129	129	6	19	152	93	.....
Total, all institutions	1,909	1,457	452	62	1,847	107	157	1,077	568	332	487	1,090	679	479	516	235

LENGTH OF TIME IN THE UNITED STATES.

Character of institution in which confined.	1 year.	2 years.	3 years.	4 and 5 years.	6 to 10 years.	11 to 20 years.	21 to 30 years.	31 to 40 years.	Over 40 years.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Charitable	2	1	1	2	4	20	23	14	33
Insane	2	2	3	1	5	24	15	11	37
Penal	5	4	5	14	18	31	14	5	4
Total, all institutions	3	2	3	4	7	24	18	11	28

PORTS OF LANDING.

Port.	Per cent.	Port.	Per cent.	Port.	Per cent.
New York	65	Baltimore	23	Canadian ports	2
Boston	2	San Francisco	½	All other ports	4½
Philadelphia	3				

ALIENS DETAINED IN PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS OF THE NORTH CENTRAL STATES.

[North Central States: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.]

Subdivision of races and character of institution in which confined.	Alien inmates.	Sex.		Age.		Cause.				Probable period of detention.			Jurisdiction of institution.		
		Male.	Female.	Under 21.	21 and over.	Criminals.		Insane.	Paupers.	Under 2 years.	2 years and over.	Life.	State.	County.	Private.
						Grave.	Minor.								
SUBDIVISION OF RACES.															
African (black)	26	21	5	3	23	9	10	5	2	7	16	3	18	8	.....
Armenian	5	5	.....	.....	5	1	.....	1	3	3	2	.....	2	.....	3
Bohemian and Moravian (Czech)	228	146	82	18	210	11	18	137	62	47	41	140	113	113	2
Bulgarian, Servian, and Montenegrin	3	3	.....	1	2	1	.....	1	1	1	1	1	1	2	.....
Chinese	17	17	.....	3	14	.....	11	5	1	13	1	3	3	14	.....
Croatian and Slovenian	29	29	.....	5	24	1	9	7	12	16	2	11	4	18	7
Dutch and Flemish	89	71	18	9	80	10	9	43	27	12	15	62	52	36	1
East Indian	2	2	.....	.....	2	1	.....	1	.....	1	1	.....	1	1	.....
English	718	509	209	44	674	97	81	333	207	124	178	416	456	247	15
Finnish	153	132	21	13	140	18	30	79	26	39	39	75	104	47	2
French	315	236	79	49	266	46	67	121	81	44	97	174	192	114	9
German	3,211	2,170	1,041	134	3,077	172	204	1,772	1,063	363	498	2,350	1,609	1,494	108
Greek	16	16	.....	4	12	1	4	.....	11	12	3	1	.....	13	3
Hebrew	191	119	72	33	158	20	19	106	46	61	65	65	113	61	17
Irish	1,342	749	593	18	1,324	70	62	764	446	137	187	1,018	691	574	77
Italian	227	197	30	38	189	61	37	61	68	84	92	51	102	108	17
Japanese	1	1	.....	.....	1	.....	1	.....	.....	1	.....	.....	.....	1	.....
Lithuanian	22	22	.....	1	21	3	3	2	14	16	3	3	.....	22	.....
Magyar	99	79	20	11	88	8	14	38	39	41	21	37	47	38	14
Mexican	3	2	1	2	1	1	2	.....	.....	1	2	.....	2	1	.....
Polish	470	369	101	60	410	42	69	153	206	146	101	223	178	260	32
Portuguese	1	1	.....	.....	1	1	.....	.....	.....	1	.....	.....	1	.....	.....
Roumanian	14	14	.....	1	13	1	1	1	11	11	1	2	3	5	6
Russian	66	53	13	14	52	7	12	34	13	18	28	20	43	23	.....
Ruthenian (Russniak)	1	1	.....	.....	1	.....	.....	1	.....	1	.....	.....	.....	1	.....
Scandinavian (Norwegians, Danes, and Swedes)	1,548	1,030	513	65	1,483	64	81	1,088	315	218	282	1,048	958	580	10
Scotch	159	125	34	9	150	15	27	67	50	35	29	95	76	81	2
Slovak	55	45	10	6	49	12	5	9	29	25	16	14	17	26	12
Spanish	11	9	2	1	10	2	1	3	5	5	3	3	4	6	1
Spanish-American	1	1	.....	.....	1	.....	.....	1	.....	.....	.....	1	1	.....	.....
Syrian	13	10	3	5	8	2	2	.....	9	5	5	3	1	6	6
Turkish	4	4	.....	.....	4	.....	.....	3	1	1	.....	3	3	1	.....
Welsh	42	30	12	1	41	3	3	18	18	6	3	33	23	19	.....
Total	9,082	6,218	2,864	548	8,534	680	782	4,854	2,766	1,495	1,732	5,855	4,818	3,920	344

CHARACTER OF INSTITUTION IN WHICH CONFINED.															
Charitable	2,963	2,165	798	213	2,750	.....	.....	197	2,766	546	131	2,286	247	2,372	344
Insane	4,657	2,706	1,951	82	4,625	.....	.....	4,657	.....	382	767	3,508	3,657	1,000	.....
Penal	1,462	1,347	115	303	1,159	680	782	.....	.....	567	834	61	914	548	.....
Total, all institutions	9,082	6,218	2,864	548	8,534	680	782	4,854	2,766	1,495	1,732	5,855	4,818	3,920	344

LENGTH OF TIME IN THE UNITED STATES.

Character of institution in which confined.	1 year.	2 years.	3 years.	4 and 5 years.	6 to 10 years.	11 to 20 years.	21 to 30 years.	31 to 40 years.	Over 40 years.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Charitable	8	4	2	4	6	20	18	20	18
Insane	2	2	1	6	13	36	23	12	5
Penal	6	6	5	15	17	34	12	4	1
Total, all institutions	6	4	3	7	11	28	18	13	10

PORTS OF LANDING.

Port.	Per cent.	Port.	Per cent.	Port.	Per cent.
New York	76	Baltimore	1½	All other ports	1
Boston	10	San Francisco	½		
Philadelphia	5	Canadian ports	6		

ALIENS DETAINED IN PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS OF THE SOUTH CENTRAL STATES.

[South Central States: Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Texas, Indian Territory, Oklahoma, Arkansas.]

Subdivision of races and character of institution in which confined.	Alien inmates.	Sex.		Age.		Cause.				Probable period of detention.			Jurisdiction of institution.			
		Male.	Female.	Under 21.	21 and over.	Criminals.		Insane.	Paupers.	Under 2 years.	2 years and over.	Life.	Federal.	State.	County.	Private.
						Grave.	Minor.									
SUBDIVISION OF RACES.																
African (black)	12	12	.....	2	10	6	2	3	1	5	6	1	.....	10	2	.....
Armenian	1	.....	1	1	.....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	1
Bohemian and Moravian (Czech)	28	22	6	.....	28	6	2	14	6	3	4	21	.....	18	9	1
Chinese	2	2	.....	.....	2	.....	.....	2	.....	.....	.....	2	.....	2	.....	.....
Croatian and Slovenian	1	1	.....	.....	1	.....	.....	1	.....	.....	.....	1	.....	1	.....	.....
Cuban	5	5	.....	4	1	2	.....	1	2	1	4	.....	.....	5	.....	.....
Dutch and Flemish	3	3	.....	.....	3	1	1	.....	1	1	1	1	.....	1	1	1
English	71	55	16	1	70	15	9	28	19	13	22	36	.....	44	13	14
French	55	44	11	4	51	6	2	29	18	3	13	39	.....	37	5	13
German	298	193	105	13	285	19	16	194	69	29	39	230	1	218	48	31
Greek	1	1	.....	1	.....	1	.....	.....	.....	1	.....	.....	.....	1	.....	.....
Hebrew	7	4	3	1	6	.....	1	2	4	3	2	2	.....	4	1	2
Irish	261	124	137	4	257	11	5	137	108	9	21	231	.....	147	46	68
Italian	56	38	18	12	44	10	6	26	14	7	16	33	1	39	7	9
Lithuanian	1	.....	1	1	.....	1	.....	.....	.....	.....	1	.....	1	.....	.....	.....
Magyar	2	1	1	1	1	1	.....	.....	1	1	1	.....	.....	2	.....	.....
Mexican	386	372	14	35	351	276	74	14	22	98	231	57	.....	272	104	10
Polish	21	13	8	3	18	1	1	14	5	1	5	15	1	15	1	4
Russian	5	4	1	.....	5	1	1	3	.....	1	1	3	.....	4	1	.....
Scandinavian (Norwegians, Danes and Swedes)	31	28	3	.....	31	3	2	23	3	4	3	24	.....	26	4	1
Scotch	15	12	3	1	14	2	3	3	7	5	2	8	.....	5	7	3
Slovak	2	2	.....	1	1	.....	1	.....	1	1	1	.....	.....	1	1	.....
Spanish	7	7	.....	1	6	4	.....	3	.....	2	2	3	.....	6	1	.....
Spanish-American	2	2	.....	.....	2	.....	.....	1	.....	.....	1	1	.....	2	.....	.....
Syrian	5	2	3	2	3	.....	3	.....	2	5	.....	.....	.....	1	2	2
Welsh	3	2	1	.....	3	1	.....	2	.....	.....	.....	3	.....	3	.....	.....
West Indian	1	1	.....	.....	1	.....	.....	.....	.....	.....	1	.....	.....	1	.....	.....
Total	1,282	950	332	88	1,194	369	129	500	284	193	378	711	4	865	258	160

CHARACTER OF INSTITUTION IN WHICH CONFINED.																
Charitable	290	162	128	33	257	.....	.....	6	28	37	45	208	.....	9	121	160
Insane	494	299	195	5	489	.....	.....	494	.....	3	36	455	.....	494	.....	.....
Penal	498	489	9	50	448	369	129	.....	.....	153	297	48	4	362	132	.....
Total all institutions	1,282	950	332	88	1,194	369	129	500	284	193	378	711	4	865	253	160

LENGTH OF TIME IN THE UNITED STATES.

Character of institution in which confined.	1 year.	2 years.	3 years.	4 and 5 years.	6 to 10 years.	11 to 20 years.	21 to 30 years.	31 to 40 years.	Over 40 years.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Charitable	2	1	2	8	7	20	16	14	35
Insane	.....	.....	.....	1	5	21	10	31	32
Penal	6	2	5	12	19	38	12	5	1
Total all institutions	4	2	3	7	14	30	13	12	15

PORTS OF LANDING.

Port.	Per cent.	Port.	Per cent.	Port.	Per cent.
New York	29	Baltimore	2	Canadian ports	2½
Boston	1	San Francisco	½	All other ports	64
Philadelphia	1				

ALIENS DETAINED IN PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS OF THE WESTERN STATES.

[Western States: Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Idaho, Washington, Oregon, California.]

Subdivision of races and character of institution in which confined.	Alien inmates.	Sex.		Age.		Cause.				Probable period of detention.			Jurisdiction of institution.			
		Male.	Female.	Under 21.	21 and over.	Criminals.		Insane.	Paupers.	Under 2 years.	2 years and over.	Life.	Federal.	State.	County.	Private.
						Grave.	Minor.									
SUBDIVISION OF RACES.																
African (black)	9	8	1	1	8	4	1	2	2	3	4	2	.....	5	3	1
Armenian	5	3	2	1	4	.....	.....	4	1	.....	1	4	.....	4	.....	1
Bohemian and Moravian (Czech)	13	9	4	.....	13	.....	.....	13	.....	1	1	11	.....	11	.....	2
Bulgarian, Servian, and Montenegrin	2	2	.....	1	1	.....	1	1	.....	1	.....	1	.....	1	1	.....
Chinese	474	466	8	8	466	134	56	262	22	103	98	273	5	322	146	1
Croatian and Slovenian	4	4	.....	.....	4	.....	.....	4	.....	.....	.....	4	.....	4	.....	.....
Cuban	2	2	.....	1	1	2	.....	.....	.....	.....	1	1	.....	2	.....	.....
Dalmatian, Bosnian, and Herzegovinian	2	2	.....	.....	2	.....	.....	2	.....	.....	1	1	.....	2	.....	.....
Dutch and Flemish	18	14	4	.....	18	3	1	10	4	2	2	14	1	10	7	.....
East Indian	5	5	.....	.....	5	3	.....	2	.....	.....	3	2	.....	3	2	.....
English	657	526	131	36	621	105	82	329	141	110	157	390	2	446	185	24
Finnish	108	97	11	2	106	14	4	74	16	22	21	65	1	85	21	1
French	310	262	48	13	297	36	13	188	73	33	57	220	4	222	75	9
German	822	653	169	36	786	78	41	585	118	74	121	627	1	663	131	27
Greek	10	10	.....	1	9	4	1	4	1	2	3	5	.....	7	3	.....
Hebrew	71	54	17	29	42	4	2	21	44	26	25	20	.....	26	3	42
Irish	670	444	226	10	660	45	54	406	165	76	89	505	1	455	198	16
Italian	289	263	26	40	249	44	24	148	73	52	66	171	.....	187	75	27
Japanese	65	61	4	5	60	24	8	20	13	20	26	19	2	38	23	2
Korean	1	1	.....	.....	1	.....	.....	1	.....	1	.....	.....	.....	1	.....	.....
Lithuanian	1	1	.....	.....	1	.....	.....	1	.....	.....	.....	1	.....	1	.....	.....
Magyar	14	12	2	.....	14	2	3	9	.....	4	3	7	.....	10	3	1
Mexican	511	451	60	76	435	217	127	75	92	169	226	116	.....	278	194	39
Pacific Islander	1	1	.....	.....	1	.....	.....	1	.....	.....	.....	1	.....	1	.....	.....
Polish	85	75	10	7	78	8	5	57	15	13	24	48	.....	62	21	2
Portuguese	76	65	11	8	68	3	6	45	22	16	15	45	.....	50	20	6
Roumanian	2	2	.....	1	1	.....	.....	1	1	.....	1	1	.....	1	.....	1
Russian	21	20	1	.....	21	4	1	15	1	1	5	15	.....	18	2	1
Scandinavian (Norwegians, Danes, and Swedes)	572	455	117	25	547	48	24	405	95	65	97	410	1	451	96	24
Scotch	189	118	21	12	127	16	16	80	27	19	25	95	.....	100	32	7
Slovak	1	1	.....	.....	1	.....	.....	1	.....	.....	.....	1	.....	1	.....	.....
Spanish	45	39	6	9	36	5	4	20	16	12	12	21	.....	23	14	8
Spanish-American	29	26	3	3	26	5	3	4	17	2	8	19	.....	9	13	7
Syrian	11	7	4	3	8	1	.....	2	8	.....	9	2	.....	3	.....	8
Turkish	8	8	.....	.....	8	3	.....	5	.....	1	2	5	.....	7	1	.....

Welsh	37	27	10	3	34	4	1	22	10	4	4	29	.....	28	8	1
West Indian	4	3	1	.....	4	.....	1	2	1	2	.....	2	.....	2	2	.....
Total	5,094	4,197	897	336	4,758	816	479	2,821	978	834	1,107	3,153	18	3,539	1,279	258
CHARACTER OF INSTITUTION IN WHICH CONFINED.																
Charitable	984	714	270	209	775	.....	.....	6	978	186	188	610	.....	65	689	220
Insane	2,815	2,206	609	15	2,800	.....	.....	2,815	.....	139	227	2,449	.....	2,787	.....	28
Penal	1,295	1,277	18	112	1,183	816	479	.....	.....	509	692	94	18	687	590	.....
Total all institutions	5,094	4,197	897	336	4,758	816	479	2,821	978	834	1,107	3,153	18	3,539	1,279	258

LENGTH OF TIME IN THE UNITED STATES.

Character of institution in which confined.	1 year.	2 years.	3 years.	4 and 5 years.	6 to 10 years.	11 to 20 years.	21 to 30 years.	31 to 40 years.	Over 40 years.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Charitable	6	4	4	7	13	20	15	15	16
Insane	1	2	1	3	9	24	29	14	7
Penal	10	6	6	10	18	27	16	5	2
Total all institutions	5	4	4	7	13	28	21	11	7

PORTS OF LANDING.

Port.	Per cent.	Port.	Per cent.	Port.	Per cent.
New York	51	Baltimore	1	Canadian ports	9
Boston	3	San Francisco	20	All other ports	14
Philadelphia	2				

Aliens Detained in Penal, Reformatory, and Charitable Institutions of the Territory of Hawaii

Subdivision of races and character of institution in which confined.	Alien inmates.	Sex.		Age.		Cause.				Probable period of detention.			Jurisdiction of institution.		
		Male.	Female.	Under 21.	21 and over.	Criminals.		Insane.	Paupers.	Under 2 years.	2 years and over.	Life.	State.	County.	Private.
						Grave.	Minor.								
SUBDIVISION OF RACES.															
African (black)	3	3			3			2	1			3	2		1
Chinese	70	69	1	2	68	21	14	31	4	14	22	34	55	11	4
Cuban	1	1		1					1	1					1
East Indian	7	5	2		7			7				7	7		
English	2	1	1		2			2				2	2		
French	1	1			1				1			1			1
German	7	6	1	1	6			5	2	2		5	5		2
Italian	1	1			1	1					1		1		
Japanese	148	136	12	7	141	71	14	16	47	69	57	22	76	25	47
Korean	3	3			3		2		1	3			1	1	1
Mexican	2	2			2		1	1		1		1	1	1	
Polish	2	2			2	1		1			1	1	2		
Portuguese	28	22	6		28	3	1	22	2	5		23	22	4	2
Roumanian	1		1		1			1				1	1		
Russian	1	1			1				1	1					1
Scandinavian (Norwegians, Danes, and Swedes)	2	2			2			2				2	2		
Spanish	2	2			2				2	1		1			2
Spanish-American	1	1			1	1					1		1		
Total	282	258	24	11	271	98	32	90	62	97	82	103	178	42	62
CHARACTER OF INSTITUTION IN WHICH CONFINED.															
Charitable	62	54	8	6	56				62	53	1	8			62
Insane	90	76	14	1	89			90				90	90		
Penal	130	128	2	4	126	98	32			44	81	5	88	42	
Total all institutions	282	258	24	11	271	98	32	90	62	97	82	103	178	42	62

LENGTH OF TIME IN THE UNITED STATES.

Character of institution in which confined.	1 year.	2 years.	3 years.	4 and 5 years.	6 to 10 years.	11 to 20 years.	21 to 30 years.	31 to 40 years.	Over 40 years.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Charitable	14	15	7	34	17	8	3	.....	2
Insane	2	1	1	14	19	37	25	1	.....
Penal	6	6	2	25	33	22	5	1	.....
Total all institutions	7	7	3	24	27	21	10	1	.....

PORTS OF LANDING.

	Per cent.
Honolulu, H. I	100

ALIENS DETAINED IN THE PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS OF PORTO RICO.

Subdivision of races and character of institution in which confined.	Alien inmates.	Sex.		Age.		Cause.				Probable period of detention.			Jurisdiction of institution.		
		Male.	Female.	Under 21.	21 and over.	Criminals.		Insane.	Paupers.	Under 2 years.	2 years and over.	Life.	State.	County.	Private.
						Grave.	Minor.								
SUBDIVISION OF RACES.															
African (black)	3	1	2	.....	3	1	.....	1	1	1	2	.....	2	1	.....
Cuban	6	6	.....	.....	6	4	.....	1	1	3	3	.....	5	.....	1
East Indian	1	1	.....	.....	1	.....	.....	.....	1	1	.....	.....	.....	1	.....
English	1	1	.....	.....	1	.....	1	.....	.....	1	.....	.....	.....	1	.....
French	1	1	.....	.....	1	1	.....	.....	.....	.....	1	.....	1	.....	.....
Polish	1	.....	1	.....	1	.....	.....	1	.....	.....	.....	1	1	.....	.....
Scandinavian (Norwegians, Danes, and Swedes)	2	1	1	.....	2	.....	1	.....	1	1	.....	1	.....	1	1
Spanish	16	15	1	.....	16	8	2	2	4	6	6	4	8	8	.....
Spanish-American	1	1	.....	.....	1	.....	1	.....	.....	.....	1	.....	1	.....	.....
West Indian	3	1	2	.....	3	1	.....	1	1	2	1	.....	2	1	.....
Total	35	28	7	.....	35	15	5	6	9	15	14	6	20	13	2

ALIENS DETAINED IN THE PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS OF PORTO RICO—Continued.

Subdivision of races and character of institution in which confined.	Alien inmates.	Sex.		Age.		Cause.				Probable period of detention.			Jurisdiction of institution.		
		Male.	Female.	Under 21.	21 and over.	Criminals.		Insane.	Paupers.	Under 2 years.	2 years and over.	Life.	State.	County.	Private.
						Grave.	Minor.								
CHARACTER OF INSTITUTION IN WHICH CONFINED.															
Charitable	9	6	3	.....	9	.....	.....	.....	9	7	.....	2	.....	7	2
Insane	6	2	4	.....	6	.....	.....	6	.....	3	1	2	6	.....	.....
Penal	20	20	.....	.....	20	15	5	.....	.....	5	13	2	14	6	.....
Total, all institutions	35	28	7	.....	35	15	5	6	9	15	14	6	20	13	2

LENGTH OF TIME IN THE UNITED STATES.

Character of institution in which confined.	1 year.	2 years.	3 years.	4 and 5 years.	6 to 10 years.	11 to 20 years.	21 to 30 years.	31 to 40 years.	Over 40 years.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Charitable	.....	.....	.....	33	17	33	17	.....	.....
Insane	.....	.....	.....	.....	.....	25	50	25	.....
Penal	.....	5	.....	5	39	31	5	5	10
Total, all institutions	.....	3	.....	11	29	29	14	7	7

PORTS OF LANDING.

	Per cent.
San Juan, P. R	100

ALIEN SEAMEN.

One of the most delicate and embarrassing features of administration has been for years the inspection of alien seamen discharged or deserting at our ports. It was, it may frankly be conceded, no part of the purpose of the immigration laws to deal with seamen as such. Their coming to this country in the regular pursuit of their calling is desirable as a means of promoting our commerce with foreign cou-n tries, and any attempt to control or regulate such coming is obviously a more appropriate subject for the navigation laws. For years, therefore, the Bureau made no effort to ascertain the number of aliens brought to this country in the crews of vessels, nor would it ever have voluntarily undertaken to depart from this practice. Finally, however, it was compelled, by the abuses brought frequently to its attention, to take some steps with a view to stopping the violations of the immigration laws by perversion of the sense and design of the navigation laws. So-called able-bodied alien seamen found ready and unobstructed access through our ports, however diseased or otherwise within the description of those aliens whom the law forbids to come to this country. As the immigration laws were gradually more strictly enforced and the certainty of exclusion became more apparent, those who could not effect an entrance as alien passengers were driven to other means of accomplishing their purpose. The simplest of such means seemed to be that of signing as members of crews of vessels bound hither, depending upon other resources to satisfy the masters of such vessels, notwithstanding the inexperience of these aliens in such makeshift and unaccustomed pursuit. In some instances, upon arrival in this country, these so-called seamen would be discharged by the masters of the vessels bringing them, in the usual manner, before the consuls of the countries, respectively, whose register the vessels bore; in other instances the seamen simply deserted at the nominal risk of only forfeiting unpaid balances of salary and clothing or other personal effects left on board.

It requires no special ingenuity to imagine the inducements to masters of vessels to engage in such traffic, or the temptation of inadmissible aliens to take this easy means of evading inspection and its attendant risks. It is sufficient to say that the frequency of such occurrences finally convinced the Bureau that some means must be adopted, if its obligation to enforce the immigration law was to be effectively discharged, to check this abuse.

After much consideration of the subject and consultation with those officers who administer the navigation laws, it was finally determined to notify the masters of all vessels bringing crews, alien in whole or in part, that such of said seamen as are discharged immediately revert to the status of other aliens for whose detention for examination such masters would be accountable under the immigration laws, and that those deserting would be held to be escaping aliens. This was embodied in the form of the accompanying regulation:

AUGUST 1, 1903.

To commissioners of immigration and other officers charged with the administration of the various laws pertaining to the immigration of aliens:

In view of the opinion of the Attorney-General of the United States, of date September 10, 1901 (23 Op., 521), you are hereby instructed that it is your duty to make such an investigation of every vessel arriving at a port of the United States from any

other than a mainland or continental port thereof as will enable you to ascertain the members of their respective crews who are aliens, as well as the intention of such alien members in seeking a landing.

(1) Alien seamen who seek to land, in the regular course of their pursuit, with the bona fide intention of departing as soon as practicable upon some outward bound vessel are not to be held for examination touching their right to land under the various acts regulating immigration into the United States, nor shall the masters of the vessels upon which they come to a port of the United States be charged on their account with the head tax prescribed by section 1 of the act approved March 3, 1903.

(2) Alien seamen who are discharged or are to be discharged, or who have deserted their vessel at a port of the United States with any other object in view than departing as described in the next preceding paragraph (1), are in no respect to be distinguished, on account of their prior calling or occupation as seamen, from other aliens seeking admission to this country, either as regards collection of head tax on their account, or as respects the examination and determination of their right to remain, under the various acts regulating immigration.

(3) All other aliens signed on the ship's articles of any vessel arriving at a port of the United States shall be examined, and in all respects regarded, as alien passengers, on account of whom the head tax should be collected, and who should be admitted, or ordered returned to the countries whence they came, in accordance with the laws and regulations governing immigration.

GEO. B. CORTELYOU, *Secretary.*

As a result of this regulation the Bureau is confident that the landing of aliens of the excluded classes as seamen has virtually ceased; while it feels equally assured that the enforcement of the regulation has in no degree been detrimental to the freedom of our commercial intercourse with other countries, or in conflict with either the letter or spirit of our navigation laws.

IMMIGRATION THROUGH CANADA.

As this subject is of great importance and involves conditions that do not exist in relation to immigration directly to ports of this country, it can not be adequately treated in conjunction with and as a part of general immigration. For this reason the Bureau deems it necessary to present in full the report, and accompanying tabulated statements, of the officer who supervises the alien arrivals through the Dominion of Canada.

For the first time the figures giving the annual arrivals of aliens in that country on their way to the United States show a decrease from the preceding year, as appears below:

ANNUAL IMMIGRATION THROUGH CANADA.

Fiscal year ending June 30—	Arrivals.	Fiscal year ending June 30—	Arrivals.
1897	10,646	1901	25,220
1898	10,737	1902	29,199
1899	13,853	1903	35,920
1900	23,200	1904	30,374

After reading the subjoined report there can be no reasonable doubt that the energetic and thorough enforcement of the laws through the efforts of the Bureau officers located in Canada has dissipated the impression that it was easier to effect an unlawful entrance into the United States by that circuitous route than through our seaports. As a result, it may fairly be assumed that the decrease is, in part at least, the result of aliens seeking the more direct and natural route.

OFFICE OF COMMISSIONER OF IMMIGRATION,
Montreal, Canada, August 22, 1904.

SIR: I have the honor to submit herewith the annual report for the fiscal year ended June 30, 1904, concerning immigration to the United States from Europe through Canadian ports of entry, and of Canadians and residents not citizens of Canada.

One year ago I had occasion to state in my annual report that the general effect of the border-control system, as conducted by this office, was of a salutary tendency, and that an improvement in the character of applicants for admission to the United States was noticeable to all whose duties made them more or less familiar with the situation.

The tables of figures presented herewith, when compared with like tables presented for the fiscal years ended June 30, 1902, and June 30, 1903, respectively, demonstrate very forcibly how well founded that observation was.

A decrease of approximately 50 per cent of undesirables, with only a slight decrease in number of arrivals, is undoubtedly an eloquent testimony to the effectiveness of the work which the Hon. Lyman J. Gage, Secretary of the Treasury, ordered put in operation September 1, 1901, and will no doubt be regarded as a triumphant vindication of the experiment.

These figures, significant as they are, are not the only features deserving of the Bureau's careful consideration, but in addition there should be an equal consideration given to the fact that the Dominion of Canada has, as a matter of self protection, taken very important steps along these very lines.

Indeed, if the figures of our own rejections only are taken into consideration a very inadequate conception of the actual results accomplished will be formed.

Three years in the course of so great an undertaking as is involved in controlling immigration through so vast a domain as the Dominion of Canada is but a very brief period, and yet during that time—actual time, thirty-four months—an almost incredible change has been effected.

Notwithstanding the fact that the Bureau of Immigration was duly represented at all the Atlantic Ocean ports of the Dominion of Canada by a commissioner and a full corps of inspectors as early as 1893, no deportations whatever are recorded prior to the above-mentioned date (September 1, 1901), so that the whole value of accomplished results up to that time was lost, firstly for want of a sufficient border force, and secondly because the Dominion of Canada made no scrutiny of its immigrants, and consequently had not made arrangements, at least in practice, for deporting undesirables.

Now, however, a change has been effected, a most salutary one, in both instances. The United States has strongly guarded the border at all its vulnerable points, and the Dominion government, finding the unwelcome streams successfully dammed and flowing back on itself, has made very rapid strides toward adopting a policy, in the main similar to the Bureau's policy.

As an evidence of this change, it should be stated that the Canadian immigration department has deported a large number of applicants for admission to Canada on the ground that they were unfit to mingle with the citizens of Canada in the pursuit of that life and pleasure which they came here to find.

Not only has Canada deported large numbers of undesirables who sought to permanently settle in Canada, but of the 24,797 applicants for permission to pass through Canada to the United States, those who were rejected by your officers as unfit persons under United States laws, because of being afflicted with loathsome, contagious diseases, were deported to Europe by the Dominion immigration authorities, the steamship companies bringing them to Canada being compelled to return them and to assume all expenses incident thereto.

It would be impossible for one not thoroughly familiar with the situation as it existed here only a few years ago to even approximately appreciate the advanced position we now occupy in these matters, and it may just as truly be said that the steps already taken are but an earnest of what may be expected to follow should circumstances require a more drastic course to be taken to weed out from the increasing hosts that continue to arrive at Canadian ports the mental and physical low-grade elements.

A year ago I had occasion to state that much inconvenience attended our endeavors owing to a lack of detention quarters at Canadian ports of arrival, a deficiency which enabled many aliens being held for deportation to escape from custody, a hospital being the only place of detention.

Now, however, a most satisfactory detention house has been provided at Quebec, the principle port, and escapes will be no longer probable. Not only will detention be guaranteed, but the comfort and health of all detained therein will be up to a

very high standard of desirability. I consider it second to no immigration detention quarters on this continent.

New quarters for examination and detention of aliens at St. John, New Brunswick, have also been provided, and it is expected that when the next winter season opens at that port said quarters will be in satisfactory condition.

These improvements are greatly to the advantage of the Dominion department of immigration, simplifying their weeding-out process, and they also give a measure of assurance that what they weed out will be actually deported, and it goes without saying that an advantage perfectly analogous will thereby be accorded your force at these respective ports.

Whatever disappointments we may experience in this connection will be narrowed down simply to one of statutory disparity. Such rejections as we may make for causes not provided for nor stipulated in Canadian immigration laws we can not hope to deport to Europe.

For instance, we may reject an immigrant because he is going to a definite destination, in direct violation of the alien contract labor law, but we should be unable to deport such an immigrant to Europe, because Canadian law makes no provision for such a deportation.

The Canadian authorities consent to such an alien's residence in Canada, we take the necessary steps to prevent his unlawful admission to the United States, and it is considered that the objects of the law are met in such a case, and they being happily few and decreasing steadily, the Bureau need not apprehend any insurmountable difficulty on that account.

The main thing to be considered is that the result of the Bureau's Canadian border-policy has produced these most salutary changes in the Canadian immigration laws and regulations, and that steamship and immigration agents in Europe are being made painfully aware of the fact that Canada is no longer an uncontested stepping stone to the riffraff of Europe to the United States.

I invite the Bureau's careful attention to the following carefully and accurately prepared special tables of facts and figures, which give in condensed form the net results of the year's work in all its particular and peculiar avenues of endeavor:

TABLE 1.—REJECTIONS DURING YEAR ENDING JUNE 30, 1904.

BLACK ROCK, N. Y.

Race.	Causes of rejection.										
	Idiot.	Convict.	Contract labor.	Insane.	No certificate.	Prostitutes.	Likely to become public charges.	Favus.	Trachoma.	All other diseases.	Total.
Armenian								1	6	1	8
Croatian and Slovenian										1	1
English							5				5
Finnish							1				1
German							1				1
Greek							1	1	1		3
Hebrew							10		2		12
Irish							1				1
Italian (north)									4	2	6
Italian (south)					4		2		8	2	16
Magyar							9		7		16
Polish							3		7	1	11
Russian							2		2		4
Scotch			1				3				4
Slovak							2		5		7
Spanish							1				1
Syrian									6		6
Turkish							2				2
Welsh							1				1
Canadian	1		8			2	12		2		25
Total	1		9		4	2	56	2	50	7	131

TABLE 1.—REJECTIONS DURING YEAR ENDING JUNE 30, 1904—Continued.

DETROIT, MICH.

Race.	Causes of rejection.										
	Idiot.	Convict.	Contract labor.	Insane.	No certificate.	Prostitutes.	Likely to become public charges.	Favus.	Trachoma.	All other diseases.	Total.
Bulgarian							21				21
English			1				1			1	3
German				1			2				3
Hebrew								1			1
Irish							3				3
Italian (south)							1				1
Magyar							1				1
Polish									1		1
Scandinavian							1				1
Spanish							1				1
Syrian							2				2
Canadian	1	2	13	2			12	1	10	1	42
Total	1	2	14	3			45	2	11	2	80

DULUTH, MINN.

Croatian and Slovenian			1								1
Finnish									2		2
French			3							1	4
Greek			4								4
Italian (south)								1	1		2
Scandinavian										1	1
Canadian			1				1				2
Total			9				1	1	3	2	16

ESTEVAN, CANADA.

English			6				7		1		14
French			1				2				3
German			5				4		1	1	11
Hebrew							1				1
Italian (south)							1				1
Magyar			2					1	3	1	7
Polish							3				3
Scandinavian							4				4
Scotch							2				2
Canadian			1								1
Total			15				24	1	5	2	47

MONTREAL, CANADA.

Armenian									2		2
Bulgarian							1				1
Croatian and Slovenian								1	2		3
Dalmatian										1	1
English			3				7		1	2	13
Finnish							3		1	1	5
French			1					1			2
German							10	1	3	2	16
Greek			9				15		15	4	43
Hebrew			4				32	6	18	12	72
Irish			2							1	3
Italian (north)							11		6	2	19
Italian (south)			58				72	5	50	23	208
Lithuanian							4	1	4	1	10
Magyar							3		1	1	5
Polish			1				5	1	9	5	21
Roumanian							3		2		5
Russian							3		2	1	6
Ruthenian (Russniak)										1	1

TABLE 1.—REJECTIONS DURING YEAR ENDING JUNE 30, 1904—Continued.

MONTREAL, CANADA—Continued.

Race.	Causes of rejection.										
	Idiot.	Convict.	Contract labor.	Insane.	No certificate.	Prostitutes.	Likely to become public charges.	Favus.	Trachoma.	All other diseases.	Total.
Scandinavian							3				3
Scotch			1				1				2
Slovak							2		2	3	7
Spanish			1				2				3
Syrian			7				17		48	4	76
Turkish							2				2
Canadian			7				12				19
Total			94				208	16	166	64	548

NIAGARA FALLS, N. Y.

Armenian					5				1		6
Croatian and Slovenian			1				8	1	5	1	16
Dutch and Flemish									1		1
English			5				15		2	3	25
Finnish							2		2		4
French							1				1
German							4	1	3	1	9
Greek			3				1		2		6
Hebrew							6	2	9	2	19
Irish		1	4				8		1	2	16
Italian (north)			2				20	3	9	4	38
Italian (south)			10				55	2	35	4	106
Magyar			1	1			14		18	6	40
Polish							16		3	6	25
Russian							1				1
Ruthenian (Russniak)							4		2		6
Scandinavian							1		1		2
Scotch			4				3			1	8
Slovak							9		1	1	11
Syrian					2		1		4		7
Turkish			5				1		1		7
Canadian			12				9		1	2	24
Total		1	47	1	7		179	9	101	33	378

NORTHPORT, WASH.[a]

French							2				2
Italian (south)							2		1		3
Russian			2								2
Scandinavian							3				3
Total			2				7		1		10

PORT HURON, MICH.

Armenian							1				1
English			6				2				8
Greek			2								2
Italian (south)										1	1
Canadian	2	1	31				19				53
Total	2	1	39				22			1	65

[a] This station was established on August 5, 1903; thus only ten months and twenty-five days of the fiscal year are reported.

TABLE 1.—REJECTIONS DURING YEAR ENDING JUNE 30, 1904—Continued.

SAULT STE. MARIE, MICH.

Race,	Causes of rejection.										
	Idiot.	Convict.	Contract labor.	Insane.	No certificate.	Prostitutes.	Likely to become public charges.	Favus.	Trachoma.	All other diseases.	Total.
Bulgarian							2				2
Croatian and Slovenian							4		1	1	6
English			9				7		1	3	20
Finnish			1				5		31	88	125
French			4				5				9
German							3		1	1	6
Greek			10				1	1			12
Irish			3				1			1	5
Italian (north)							3	2	9	4	18
Italian (south)							10	5	25	19	59
Magyar			4				1		1	1	7
Polish							5	1		2	8
Scandinavian			5				1		10	11	27
Scotch			1				1			1	3
Syrian							4	1	10		15
Turkish									2		2
Welsh					1					1	1
Canadian			53			10	34			3	100
Total			90			10	87	10	91	136	424

SUMAS, WASH.

Japanese					2						2

VANCEBORO, ME.

English	1						7				8
Finnish			1								1
German							22				22
Greek							2		1		3
Hebrew										1	1
Irish							1				1
Italian (south)			1				1	1	2		5
Polish			7				3				10
Ruthenian (Russniak)							3				3
Scandinavian			5				2				7
Scotch							6				6
Spanish							1				1
West Indian							1				1
Canadian	1	3				2	20				26
Total	2	3	14			2	69	1	3	1	95

WINNIPEG, MANITOBA.

Bulgarian							3				3
English			1				15			2	18
Finnish							3				3
French										1	1
German			1				34	2	10	10	57
Greek									2		2
Hebrew							1	1	2	1	5
Irish			1				4				5
Italian (south)									2		2
Lithuanian							2				2
Magyar							13	1	2	1	17
Polish							15	1	1	1	18
Russian							19		3	1	23
Ruthenian (Russniak)								1		1	2
Scandinavian			5			1	24			1	31
Scotch							4				4
Slovak							15	1		1	17
Syrian							8				8
Total			8			1	160	7	22	20	218

TABLE 1.—REJECTIONS DURING YEAR ENDING JUNE 30, 1904—Continued.

YARMOUTH, NOVA SCOTIA.[a]

Race.	Causes of detention.										
	Idiot.	Convict.	Contract labor.	Insane.	No certificate.	Prostitutes.	Likely to become public charges.	Favus.	Trachoma.	All other diseases.	Total.
Italian (south)	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	3
Canadian	.....	.....	2	.....	.....	.....	1	.....	.....	2	5
Total	.....	.....	2	.....	.....	.....	1	.....	.....	5	8

[a] This station was established on June 15, 1904; thus only two weeks of the fiscal year are reported.

TABLE 2.—TOTAL REJECTIONS AT CANADIAN BORDER STATIONS, YEAR ENDING JUNE 30, 1904.

Race.	Causes of rejections.										
	Idiot.	Convict.	Contract labor.	Insane.	No. certificate.	Prostitutes.	Likely to become public charges.	Favus.	Trachoma.	All other diseases.	Total.
Armenian	.....	.....	.....	.....	5	.....	1	1	8	2	17
Bulgarian	.....	.....	.....	.....	.....	.....	27	.....	.....	.....	27
Croatian and Slovenian	.....	.....	1	.....	1	.....	12	2	8	3	27
Dalmatian	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
Dutch and Flemish	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
English	1	.....	31	.....	.....	.....	66	.....	5	11	114
Finnish	.....	.....	2	.....	.....	.....	14	.....	36	89	141
French	.....	.....	9	.....	.....	.....	10	1	.....	2	22
German	.....	.....	6	1	.....	.....	80	4	18	15	124
Greek	.....	.....	28	.....	.....	.....	20	4	19	4	75
Hebrew	.....	.....	4	.....	.....	.....	50	10	21	26	111
Irish	.....	1	10	.....	.....	.....	18	1	1	3	34
Italian (north)	.....	.....	2	.....	.....	.....	34	5	28	12	81
Italian (south)	.....	.....	69	.....	4	.....	144	14	124	52	407
Japanese	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	2
Lithuanian	.....	.....	.....	.....	.....	.....	6	1	4	1	12
Magyar	.....	.....	7	1	.....	.....	46	2	32	5	93
Polish	.....	.....	8	.....	.....	.....	50	3	21	15	97
Roumanian	.....	.....	.....	.....	.....	.....	3	.....	2	.....	5
Russian	.....	.....	2	.....	.....	.....	25	.....	7	2	36
Ruthenian (Russniak)	.....	.....	.....	.....	.....	.....	7	1	2	2	12
Scandinavian	.....	.....	15	.....	.....	1	39	.....	21	3	79
Scotch	.....	.....	7	.....	.....	.....	20	.....	.....	2	29
Slovak	.....	.....	.....	.....	.....	.....	28	1	8	5	42
Spanish	.....	.....	1	.....	.....	.....	5	.....	.....	.....	6
Syrian	.....	.....	7	.....	2	.....	82	1	68	4	114
Turkish	.....	.....	5	.....	.....	.....	5	.....	8	.....	13
Welsh	.....	.....	.....	.....	.....	.....	1	.....	.....	1	2
West Indian	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
Canadian	5	6	128	2	.....	14	120	1	13	8	297
Total	6	7	342	4	14	15	864	52	449	269	2,022

TABLE 3.—ALIENS IN CANADA ONE YEAR AND LESS EXAMINED BY BORDER BOARDS OF SPECIAL INQUIRY, YEAR ENDING JUNE 30, 1904.

Station.	Number manifested.	Number admitted.	Number rejected.
Black Rock, N. Y.	374	361	13
Detroit, Mich.	317	310	7
Duluth, Minn.	168	168	.....
Estevan, Canada	331	298	33
Halifax, Nova Scotia	85	84	1
Montreal, Quebec	2,680	2,311	369
Niagara Falls, N. Y.	724	679	45
Northport, Wash.	215	215	.....
Port Huron, Mich.	224	221	3
St. John, New Brunswick, and Quebec, Quebec	197	193	4
Sault Ste. Marie, Mich.	465	401	64
Sumas, Wash.	63	63	.....
Vanceboro, Me.	1,230	1,230	.....
Vancouver, British Columbia	45	45	.....
Winnipeg, Manitoba	2,320	2,192	128
Yarmouth, Nova Scotia	5	5	(a)
Total	9,438	8,771	667

(a) See footnote, Table 1.

STEAMSHIP COMPANIES LANDING ALIENS EXAMINED BY BOARDS OF SPECIAL INQUIRY.

Date.	Allan.		Canadian Pacific R. R. Atlantic.		Dominion.		Hamburg-American.		Canadian Limited.		Franco-Canadian.		Miscellaneous.		Total.	
	Admitted.	Rejected.	Admitted.	Rejected.	Admitted.	Rejected.	Admitted.	Rejected.	Admitted.	Rejected.	Admitted.	Rejected.	Admitted.	Rejected.	Admitted.	Rejected.
1903.																
July	267	7	310	26	104	14	124	32	.....	.....	.....	.....	159	1	964	80
August	302	15	277	24	38	2	149	33	.....	.....	.....	.....	254	3	1,020	77
September	253	16	217	13	69	5	45	3	.....	.....	.....	.....	250	....	834	37
October	323	30	177	14	80	1	25	11	.....	.....	.....	.....	232	1	837	57
November	241	9	205	18	43	5	34	8	.....	.....	.....	.....	214	3	737	43
December	194	13	195	16	63	2	31	4	.....	.....	.....	.....	146	....	629	35
1904.																
January	90	2	102	10	22	2	9	....	.....	.....	.....	.....	69	4	292	18
February	97	4	113	7	16	2	21	3	.....	.....	.....	.....	66	2	313	18
March	131	12	121	8	47	2	40	1	.....	.....	.....	.....	203	1	542	24
April	221	19	140	38	78	1	28	1	.....	.....	.....	.....	99	2	561	61
May	288	14	248	28	168	11	16	4	.....	.....	.....	.....	83	1	798	58
June	328	12	308	55	140	17	11	....	24	6	56	42	377	32	1,244	164
Total	2,735	158	2,413	252	858	64	583	100	24	6	56	42	2,152	50	8,771	667

TABLE 4.—REJECTIONS AT BORDER STATIONS HAVING NO BOARDS OF SPECIAL INQUIRY, YEAR ENDING JUNE 30, 1904.

Station.	Causes of rejection.				
	No certificate.	Likely to become public charges.	Contract labor.	Insane.	Total.
Belleville, Ontario	.....	9	.....	.....	9
Brockville, Ontario	2	5	.....	.....	7
Cloverdale, British Columbia	31	2	.....	.....	33
Cornwall, Ontario	1	7	1	.....	9
Lubec Junction, New Brunswick	8	2	.....	4	14
Deloraine, Manitoba	12	.....	.....	.....	12
Emerson, Manitoba	66	.....	.....	.....	66
Flagstone, British Columbia	18	10	.....	.....	28
Gretna, Manitoba	121	7	.....	.....	128
Huntingdon, Quebec	10	1	.....	.....	11
Kingston, Ontario	10	5	.....	.....	15
Lacolle, Quebec	21	.....	.....	.....	21
Megantic, Quebec	3	.....	1	.....	4
Newport, Vt	23	72	4	.....	99
North Stratford, N. H	4	14	15	.....	33
Noyan Junction, Quebec	42	3	2	.....	47
Ogdensburg, N. Y	3	5	.....	.....	8
Pembina, N. Dak	5	.....	.....	.....	5
Prescott, Ontario	7	17	.....	.....	24
Port Hope, Ontario	1	6	.....	1	8
Rainy River, Ontario	12	.....	.....	.....	12
St. Albans, Vt	5	1	.....	.....	6
St. Johns, Quebec	1	6	.....	.....	7
St. Stephens, New Brunswick	8	3	10	.....	21
Warroad, Minn	15	2	.....	.....	17
Total	429	177	33	5	644

TABLE 5.—ALIENS DESTINED TO UNITED STATES LANDED AT CANADIAN PORTS BY STEAMSHIP LINES NOTED, YEAR ENDED JUNE 30, 1904.

Port of landing.	Examined.	Admitted on primary inspection.	Admitted after special inquiry.	Total admitted.	Deported to Europe.	Remained in Canada.	Total rejected.
ALLAN LINE.							
Halifax, Nova Scotia	1,230	1,091	129	1,220	6	4	10
Quebec, Quebec	3,434	3,168	248	3,416	14	4	18
St. John, New Brunswick	308	290	15	305	1	2	3
Total	4,972	4,549	392	4,941	21	10	31
CANADIAN PACIFIC R. R. ATLANTIC LINE.							
Quebec, Quebec	5,249	4,059	1,120	5,179	40	30	70
St. John, New Brunswick	2,994	2,060	833	2,893	56	45	101
Total	8,243	6,119	1,953	8,072	96	75	171
CANADIAN LINE LIMITED.							
Quebec, Quebec	105	41	57	98	1	6	7
DOMINION LINE.							
Halifax, Nova Scotia	108	104	3	107	1	.....	1
Quebec, Quebec	1,227	1,086	166	1,202	20	5	25
Total	1,335	1,140	169	1,309	21	5	26
FRENCH LINE.							
Quebec, Quebec	104	71	17	88	7	9	16
HAMBURG-AMERICAN LINE.							
Halifax, Nova Scotia	600	544	45	589	5	6	11

TABLE 5.—ALIENS DESTINED TO UNITED STATES LANDED AT CANADIAN PORTS BY STEAMSHIP LINES NOTED, YEAR ENDED JUNE 30, 1904—Continued.

Port of landing.	Examined.	Admitted on primary inspection.	Admitted after special inquiry.	Total admitted.	Deported to Europe.	Remained in Canada.	Total rejected.
RECAPITULATION.							
Allan Line	4,972	4,549	392	4,941	21	10	31
Canadian Pacific R. R. Atlantic Line	8,243	6,119	1,963	8,072	96	75	171
Canadian Line	105	41	57	98	1	6	7
Dominion Line	1,335	1,140	169	1,309	21	5	26
French Line	104	71	17	88	7	9	16
Hamburg-American Line	600	544	45	589	5	6	11
Total	15,359	12,464	2,633	15,097	151	111	262

TABLE 6.—RECAPITULATION OF ALIENS MANIFESTED, ADMITTED, AND REJECTED WITHIN ONE YEAR OF DATE OF ARRIVAL AT CANADIAN OCEAN PORTS, AS PER TERMS OF DEPARTMENT CIRCULAR No. 97, YEAR ENDING JUNE 30, 1904.

Where examined.	Number manifested.	Number admitted.	Number rejected.
Examined at ocean ports of arrival	15,359	15,097	262
Examined by border boards of special inquiry	9,438	8,771	667
Total	24,797	23,868	929

TABLE 7.—TOTAL REJECTIONS AT OCEAN PORTS OF ARRIVAL, BY BORDER BOARDS OF SPECIAL INQUIRY, AND AT BORDER STATIONS WHERE THERE ARE NO BOARDS OF SPECIAL INQUIRY, YEAR ENDING JUNE 30, 1904.

Rejections at ocean ports of arrival	262
Rejections by border boards of special inquiry	2,022
Rejections at border stations where there are no boards of special inquiry	644
Total	2,928

TABLE 8.—ALIENS DEPORTED BY AUTHORITY OF DEPARTMENT WARRANT, FISCAL YEAR ENDING JUNE 30, 1904.

Name.	Age.	Sex.	Nationality.	Race.	Port of arrival.	Date of arrival.	Steamship.
Samuelian, Artin	23	Male	Turkish	Armenian	Quebec	July 9, 1903	Southwark.
Fainstein, Samuel	40	do	Russian	Hebrew	do	July 18, 1903	Kensington.
Leiser, Yancu	43	do	do	do	do	July 11, 1903	Lake Champlain.
Sarinka, Almia	19	Female	do	Finnish	Halifax	Mar. 28, 1903	Carthaginian.
Gattas, Shaheen	23	Male	Turkish	Syrian	do	Aug. 1, 1903	Barcelona.
Haayik, Nacklye	20	do	do	do	do	do	Do.
Smith, Wm. A	18	do	Great Britain	English	Quebec	May 17, 1903	Dominion.
Papageorgio, Anastasia	32	do	Greece	Greek	Montreal	July 28, 1903	Birmingham.
Olinera, Mary	21	Female	Russian	Finnish	Halifax	Apr. 9, 1902[a]	Pretorian.
Burns, Elizabeth		do	Great Britain	Irish	Quebec	July 11, 1903	Bavarian.
Boyajian, Ohannes		Male	Turkish	Armenian	Halifax	Nov. 19, 1902[b]	
Boyajian, Misac		do	do	do	do	do.[b]	
Simmons, Robert	37	do	Great Britain	English	Montreal	Oct. 10, 1903	Parisian.
Bridgens, Albert	37	do	do	do	do	do	Do.
Smith, Stephen	27	do	do	do	do	do	Do.
Compson, Abram	19	do	do	do	do	do	Do.
Smithyman, George	34	do	do	do	do	do	Do.
Roberts, Francis	30	do	do	do	do	do	Do.
Price, Arthur	34	do	do	do	do	do	Do.
Highway, George, and sons	36	do	do	do	do	do	Do.
Page, John	32	do	do	do	do	do	Do.
Page, Mrs. John, and child		Female	do	do	do	do	Do.
Yacono, Vincenzo	24	Male	Italian	South Italy	Quebec	Oct. 18, 1903	Lake Erie.
Nillson, Eric A	19	do	Swedish	Scandinavian	Halifax	Dec. 6, 1903	Ionian.
Anderson, Olaf	26	do	do	do	do	June 1, 1903	
Grabowsky, Frank	35	do	Austrian	Polish	do	Mar. 16, 1904	Sardinian.
Grabowsky, Victoria	30	Female	do	do	do	do	Do.
Grabowsky, Annie	4	do	do	do	do	do	Do.
Grabowsky, Alexander	2½	Male	do	do	do	do	Do.
Robinson, Charles		do	Great Britain	Scotch	Montreal	Aug. 12, 1903	Kastalia.
Kamenkasz, Anton	30	do	Russian	Polish	Halifax	Aug. 30, 1903	Lake Champlain.
Grunberg, Tobias	23	do	do	Hebrew	Quebec	July 2, 1903	Do.
Kalonsky, Alter	36	do	do	Polish	St. John	Jan. 18, 1904	Lake Erie.
Hanson, Heinric		do	Norwegian	Scandinavian	Quebec	May 24, 1903	Mount Temple.
Garelick, Adolph		do	Russian		St. John	Jan. 18, 1904	Lake Erie.
Bjerknes, Lisa M	27	Female	Norwegian	Scandinavian	Quebec	May 15, 1903	Tunisian.

Name.	Where arrested.	Cause of arrest.	Deported from—	Date of deportation.
Samuelian, Artin	Niagara Falls, N. Y	Trachoma, attempting surreptitious entry.	Boston, Mass. (Dominion Line)	Aug. 1, 1903
Fainstein, Samuel	Charlotte, N. Y	Attempting surreptitious entry	do	Aug. 17, 1903
Leiser, Yancu	do	do	New York, N. Y	Aug. 15, 1903
Sarinka, Almia	Negaunee, Mich	Public charge at Negaunee, Mich	Montreal, Quebec	Aug. 22, 1903
Gattas, Shaheen	Niagara Falls, N. Y	Attempting unlawful entry	New York, N. Y	Aug. 26, 1903
Haayik, Nacklye	do	do	do	Do.
Smith, Wm. A	Charlotte, N. Y	Feeble-minded, epileptic, public charge.	Boston, Mass. (Dominion Line)	Aug. 29, 1903
Papageorgio, Anastasia	Eastport, Me	Trachoma, attempting surreptitious entry.	New York, N. Y	Dec. 8, 1903
Olinera, Mary	Niagara Falls, N. Y	Trachoma	do	Oct. 2, 1903
Burns, Elizabeth	Rochester, N. Y	Public charge at Rochester	do	Oct. 3, 1903
Boyajian, Ohannes	Worcester, Mass	Unlawful entry	do	Nov. 2, 1903
Boyajian, Misac	do	do	do	Do.
Simmons, Robert	Malone, N. Y	Contract laborer	do	Do.
Bridgens, Albert	do	do	do	Do.
Smith, Stephen	do	do	do	Do.
Compson, Abram	do	do	do	Do.
Smithyman, George	do	do	Ordered to be delivered in New York Oct. 14, 1903, by the Bureau.	Do.
Roberts, Francis	do	do	do	Do.
Price, Arthur	do	do	do	Do.
Highway, George, and sons	do	do	do	Do.
Page, John	do	do	do	Do.
Page, Mrs. John, and child	do	Separation of family	do	Do.
Yacono, Vincenzo	Niagara Falls, N. Y	Trachoma and unlawful entry	New York, N. Y	Dec. 3, 1903
Nillson, Eric A	Calais, Me	Unlawful entry	do	Mar. 1, 1904
Anderson, Olaf	Escanaba, Mich	Public charge, Delta County, Mich	do	Mar. 30, 1904
Grabowsky, Frank	Sault Ste. Marie, Mich	Trachoma	do	Apr., 1904
Grabowsky, Victoria	do	do	do	Do.
Grabowsky, Annie	do	do	do	Do.
Grabowski, Alexander	do	do	do	Do.
Robinson, Charles	Niagara Falls, N. Y	Smuggling aliens into United States	do	May 29, 1904
Kamenkasz, Anton	do	Trachoma	do	Do.
Grunberg, Tobias	Boston, Mass	Public charge in city hospital	Boston, Mass	Feb., 1904
Kalonsky, Alter	Chicago, Ill	Public charge in Chicago	Quebec, Quebec	June 30, 1904
Hanson, Heinric	Warren, Minn	Public charge in Warren, Minn	New York, N. Y	
Garelick, Adolph	Oshkosh, Wis	Public charge in Oshkosh, Wis	do	
Bjerknes, Lisa M	Rochester, Minn	Feeble-minded and public charge	do	May 26, 1904

[a] Detained in Canada.

[b] Delayed by Department of Justice.

TABLE 9.—PERSONS ARRESTED BY IMMIGRANT INSPECTORS FOR VIOLATION OF UNITED STATES IMMIGRATION LAWS DURING FISCAL YEAR ENDED JUNE 30, 1904.

Name.	Date of arrest.	By whom arrested.	Place.	Cause.	Outcome of case.
Carrie Leighton	July 18, 1903	.....	Syracuse, N. Y.	Bringing Emma Bell and Ella Flowers into U. S. for immoral purposes.	Pleaded guilty Oct. 8, 1903; fined $600.
George Maurie, Louis Corey.	Aug. 27, 1903	Inspectors Turner and Seraphic.	Eastport, Me	Smuggling Greek, Anastasis Papageorgis, into U. S.	Pleaded guilty Dec. 3, 1903; fined $20 each.
George Unis	Nov. 11, 1903	Inspector Burdette	Black Rock, N. Y	Smuggling Simon family into U. S	Pleaded guilty Mar. 9, 1904; sentence suspended and prisoner released.
John Demaras	.....	Inspector Seraphic	Nashua, N. H.	Smuggling Greek, George Tsakynakis, into U. S.	Convicted Feb. 10, 1904; sentenced to 15 days in prison and to pay a fine of $100.
Chas. Robertson	May 4, 1904	Inspector O'Brien	Niagara Falls, N. Y.	Smuggling alien, Anton Kamenkasz, into U. S.	Pleaded guilty May 16, 1904; sentence suspended and Robertson and Kamenkasz subsequently deported from New York.
Fannie Clark	Apr. 18, 1904	Inspector Peter E. Miller.	Ogdensburg, N, Y	Importing alien, Bertha Belanger, into U. S. for immoral purposes.	Case still pending.
Stamatis Bias	June 3, 1904	Inspectors at Niagara Falls.	Niagara Falls, N. Y.	Possessing false naturalization papers, by means of which he attempted to enter the U. S.	Do.

FINAL DISPOSITION OF CASES PENDING ON JUNE 30, 1903, OF PERSONS ARRESTED BY IMMIGRANT INSPECTORS FOR VIOLATION OF UNITED STATES IMMIGRATION LAWS.

Name.	Date of arrest.	By whom arrested.	Place.	Cause.	Outcome of case.
Gustav Sundstrom	Nov. 18, 1902	Inspector Zurbrick	Sault Ste. Marie, Mich.	Smuggling Otto Linguist into U. S	No indictment found; released July 7, 1903.
Alphonse Brunni	Apr. 28, 1903	.....do	.....do	Smuggling John Brunni into U. S.	Do.
Wm. Karrys	June 1, 1903	Inspector Francis	Niagara Falls, N. Y.	Smuggling 3 Greeks into U. S	Pleaded guilty July 16, 1903; fined $100.
Joseph School	June 19, 1903	Inspector Buchanan	Black Rock, N. Y.	Smuggling Sabatino Cicci and Antonio Natale Di Egidio into U. S.	Do.
Frank Lloyd	June 23, 1903	Inspector Parker	Calais, Me	Bringing 2 aliens into U. S. in violation of alien contract labor law.	Discharged July 1, 1903, by U. S. Commissioner Bradley.

TABLE 10.—REPORT OF THE MEDICAL INSPECTION OF ALIEN IMMIGRANTS AT THE PORTS OF QUEBEC, PROVINCE OF QUEBEC, AND ST. JOHN, NEW BRUNSWICK, CANADA, WITH THE ULTIMATE DISPOSITION OF EACH CASE DETAINED, DURING THE FISCAL YEAR ENDING JUNE 30, 1904.

Disease.	Remaining on hand close of fiscal year 1903.	Certified during fiscal year 1904.	Total to be accounted for.	Released by board of special inquiry.	Released recovered.	Released by Canadian authorities.	Escaped.	Died.	Deported.	Remaining under treatment close of fiscal year 1904.
Abscess of neck		1	1	1						
Adenitis:										
Glands of neck		5	5	3					2	
Submaxillary glands		1	1	1						
Amputation:										
Of fingers		4	4	4						
Of arm		2	2	2						
Of foot		1	1	1						
Of leg		1	1	1						
Anæmia		1	1				1			
Aneurism, right carotid		1	1	1						
Ankylosis:										
Of knee		4	4	4						
Of hip		1	1	1						
Arterio-sclerosis		1	1	1						
Blepharitis		1	1	1						
Blind, one eye		11	11	11						
Bronchitis, chronic		2	2	2						
Broncho-pneumonia	1		1		1					
Cataract		2	2	2						
Cellulitis:										
Of foot		2	2		2					
Of leg		1	1		1					
Conjunctivitis:										
Acute		4	4		3					1
Granular	1	10	11		6					5
Phlyctenular		2	2	1						1
Corneal opacities		5	5	5						
Deaf and dumb		4	4	3					1	
Deformity of foot, congenital		2	2	2						
Dislocation:										
Of ankle		1	1	1						
Of hip		5	5	5						
Of shoulder		1	1						1	
Crystaline lens		1	1	1						
Dwarf		1	1	1						
Favus		7	7	1	1				3	2
Fever		2	2		2					
Fracture of femur, old		1	1	1						
Furunculosis		3	3	3						
Hernia, inguinal		7	7	7						
Hip joint disease		1	1						1	
Hysteria		1	1						1	
Idiocy		1	1							1
Insular sclerosis		1	1						1	
Jaundice, acute catarrhal		1	1	1						
Keratitis, phlyctenular		1	1	1						
Larynx, extirpation of		1	1	1						
Leucoderma		1	1	1						
Marasmus		1	1	1						
Meningocele		1	1	1						
Mentally deficient		2	2	2						
Neavus		1	1	1						
Neurasthenia		1	1						1	
Lupus		1	1	1						
Observation:										
For eyes	8	11	19		16		2		1	
For favus		5	5	1	3				1	
For fever		1	1		1					
For lungs		1	1		1					
Ozoena		1	1	1						
Panophthalmitis		1	1		1					
Paralysis agitans		1	1	1						
Paralysis, motor, of leg		1	1	1						
Paraplegia, spastic		1	1	1						
Photophobia		1	1			1				
Pityriasis		1	1						1	
Pneumonia, lobar		1	1		1					
Poor physique		10	10	2		2			6	
Pregnancy		15	15	15						

TABLE 10.—REPORT OF THE MEDICAL INSPECTION OF ALIEN IMMIGRANTS AT THE PORTS OF QUEBEC, ETC.—Continued.

Disease.	Remaining on hand close of fiscal year 1903.	Certified during fiscal year.	Total to be accounted for.	Released by board of special inquiry.	Released recovered.	Released by Canadian authorities.	Escaped.	Died.	Deported.	Remaining under treatment close of fiscal year 1904.
Rachitis		2	2	2						
Raynauds disease	1		1	1						
Rheumatism, acute		1	1		1					
Senility and debility	3	63	66	63		1	1		1	
Spine:										
Kyphosis		2	2	2						
Lordosis		1	1	1						
Scoliosis		6	6	5					1	
Sprain, ankle		1	1	1						
Stomach, cancer of		1	1	1						
Stutterer, pronounced		1	1	1						
Syphilis, tertiary		1	1						1	
Tabes dorsalis		1	1	1						
Tachycardia		1	1			1				
Thyroid goitre		2	2	2						
Tinia circinata		1	1		1					
Tinia sycosis		1	1		1					
Trachoma	18	243	261	13	139	6	3		78	22
Tumor, left parotid		1	1	1						
Under sized		1	1						1	
Valvular disease heart, mitral		1	1			1				
Varicocele	1		1						1	
Total	33	495	528	198	181	12	7		103	32

SUPPLEMENTAL REPORT OF THE MEDICAL INSPECTION OF ALIEN IMMIGRANTS AT QUEBEC, PROVINCE OF QUEBEC, AND ST. JOHN, NEW BRUNSWICK, CANADA, DURING THE FISCAL YEAR 1904.

Disease.	Number recorded.	Disease.	Number recorded.
Amputation of finger	4	Opacity cornea	4
Ankylosis:		Physical examination	30
Of knee	1	Pregnancy	13
Of finger	1	Partially deaf	1
Adenitis	3	Seborrhœa	1
Blepharatis marginalis	3	Sebaceous cyst	1
Blind, one eye	34	Sty	2
Cataract	1	Torticollis	1
Conjunctivitis:		Trachoma, cured	2
Phlyctenular	2	Tinia circinata	1
Follicular	13	Ulcer of cornea	2
Favus, cured	78		
Keratitis	1	Total	199

U. S. MEDICAL EXAMINER,
Montreal, Canada, June 30, 1904.

SIR: I herewith submit my report as medical officer temporarily in charge at Montreal, Canada, for the fiscal year ending June 30, 1904. I examined during this period 6,800 persons, and have certified to following conditions and diseases:

TABLE 11.—SUMMARY OF EXAMINATIONS OF IMMIGRANTS EXAMINED AT MONTREAL, CANADA, IN YEAR ENDING JUNE 30, 1904.

Diseases and condition of subject.	Number.	Diseases and condition of subject.	Number.
Alopecia	1	Locomotor ataxia	1
Amaurosis	1	Loss of one eye	37
Amputation:		Loss of one arm	1
Of fingers	3	Measles	3
Of leg	1	Nose, absence of, partial destruction of palate	1
Anchylosis:		Osteitis pyogenic	1
Of elbow joint	1	Paralysis:	
Of knee joint	1	Of right side (capsular)	1
Artificial tube, tracheotomy	1	Bell's	1
Arterio sclerosis	2	Paraplegia, spastic	2
Anæmia	1	Phlyctenular keratitis	2
Blephritis marginalis	3	Pregnancy	20
Blind and cripple	1	Palate cleft	1
Bronchitis	1	Poor physique	2
Cancer	1	Ptosis	1
Carbuncle	1	Pterygium	76
Cataracts	15	Rheumatism:	
Conjunctivitis:		Articular	2
Catarrhal	40	Chronic	1
Chronic	8	Muscular	1
Follicular	18	Senility	5
Corneal opacities	2	Scabies	1
Cripple	2	Syphilis (secondary)	2
Cyst, sebaceous	5	Spine (curvature of)	1
Crystalline lens, dislocation of	3	Trachoma	148
Dacryo-cystitis	1	Trachoma and hydrocele	1
Deaf and dumb	2	Trachoma and loss of one eye	1
Ectropion	3	Trachoma, terminal effects of	20
Epilepsy	1	Tubercle:	
Favus	8	Of lung	12
Fracture, old:		Of hip joint	2
Of bones of forearm	1	Of peritoneum	2
Of tibia and fibula	1	Tachycardia	1
Of femur	1	Trichiasis	1
Frost bite (of foot)	1	Tumor of testicle	1
Goitre	1	Talipes varus	1
Heart disease	3	Tonsils (enlarged)	1
Hemiplegia	1	Varicose veins of leg	1
Hernia	46	Varicose ulcer of leg	1
Hydrocele	4	Cases of trachoma reexamined and refused certificates of health	65
Iritis (simple plastic)	4	Cases certified to disease eventually granted certificates of health	31
Internal strabismus	1	Cases held for observation	113
Infected wound of scalp	1		
Irido cyclitis	1		
Lipoma of scalp	1		

Of the above cases held for observation only a very small number were granted certificates of health. The rest were either certified to disease or did not again appear for examination.

As a large number of the alien immigrants examined at this office come directly from the ship's side with inflamed conjunctivæ, after being crowded together for two or three weeks with persons afflicted with trachoma, I am certain that many of these later develop the disease, though at time of examination it is impossible to make a definite diagnosis. I have received more than a hundred and fifty letters in the last two years from private physicians who have been treating cases of trachoma held by this office for observation only.

I also beg to submit the number of cases of trachoma treated at Montreal General Hospital out door eye clinic for the last ten years:

Year ending April 30—	Cases.	Year ending April 30—	Cases.
1895	22	1900	16
1896	30	1901	29
1897	81	1902	50
1898	18	1903	271
1899	23	1904	60

Respectfully,

JAMES BARCLAY, *Medical Examiner.*

ROBERT WATCHORN, Esq.,
Commissioner of Immigration, Montreal, Canada.

Of the foregoing tables, I may be permitted to point out that Table 1 contains the full and complete lists of rejections by the various border boards of special inquiry within this jurisdiction for the period of time under consideration, but owing to immigration through this jurisdiction being divided into three classes, more than one set of tables has been deemed essential to an explicit representation of the facts as they exist.

The three classes into which immigration is divided are as follows:

Class 1: Native Canadians. These are subject to examination, but not to the payment of head tax.

Class 2: Aliens resident in (for more than one year) but not citizens of Canada.

Class 3: Aliens arriving at Canadian Atlantic ports and proceeding to the United States within one year of date of arrival under the terms of Department circular 97, dated November 1, 1901.

The first class, as stated, is not subject to payment of a head tax.

The second class is subject to the payment of said head tax, and it is collected from the railway or steamboat companies bringing them to the United States.

The third class is also subject to the payment of the head tax, but in their case the tax is paid by the steamship companies bringing them from Europe to a Canadian port.

I have mentioned these matters in detail because if these various tables are not read in the light of these administrative facts confusion is more than likely to be the result.

Each of the tables is accompanied by a designation which will enable the Bureau to clearly comprehend its significance and identical bearing on the whole of the year's work.

Table 3 will serve to indicate that those aliens whose head tax is payable by the steamship companies did not all present themselves for examination by your officers at ocean port of arrival—indeed a very large number of them did not indicate until some time after their arrival that the United States was their actual destination. A study of this table will not only give the exact numbers but also the points at which they presented themselves for examination.

It would materially diminish the labors and difficulties of the border force if all immigrants destined for the United States were so manifested. It would greatly simplify the work generally, the facilities for primary inspection at ports of arrival being up to date, and detention quarters for the inadmissible ones being also of modern construction and equipment, neither of which obtains at the border stations.

There is no such thing as a primary inspection of this class of aliens at border stations because all such aliens are regarded as having had a design in failing to be examined at port of arrival, where deportation could be effected without undue expense or unusual difficulty, and therefore they are all examined by a board of special inquiry.

The steamship companies can not sanely be suspected of mismanifesting their passengers, because there is nothing gained by them by pursuing such a policy. They have to pay head tax on them for one year from date of disembarkation—that is, if they enter the United States within said year, and more than 9,000 did so enter during the fiscal year 1904.

Then, again, the transportation lines have to bear the inland expense of deportation from the border—no small item in itself—all of which would be saved to them were all deportations effective from the ocean port of arrival.

The real reason will be found, no doubt, in the immigrant's own desire to avoid as long as possible the probability of deportation.

I need only point out to the Bureau the striking figures given in Table 3, which indicate that of those aliens who come within the provisions of Department circular 97, of November 1, 1901—that is to say, aliens who are examined within one year of the date of arrival from Europe at a Canadian port, the payment of whose head tax devolves upon the steamship lines, 24,797—only 15,359 were examined at the port of arrival, and 9,438 were ostensibly manifested as Canadian immigrants, though really having the United States as an objective point, as shown by their applications for admission to the United States so shortly after their arrival in Canada, which in the majority of cases did not exceed thirty days.

The most striking thing about these figures is the fact that the 15,359 examined at time and place of arrival only furnished 262 of the objectionables, while the 9,438 subsequently examined at the border yielded 667 equally objectionable.

The Canadian system of inspection was not so thorough as ours at the beginning of the fiscal year, and while great improvement has been noted in this respect, there is still a noticeable disparity, which is more than likely to conduce to the manifesting of aliens at time of embarkation to a Canadian rather than to a United States destination, the chances of securing a landing being brighter in the former case than in the latter.

At all events I am unable from any other point of view to give anything like a satisfactory explanation of the remarkable condition of things in this connection.

This state of things will not continue; it is incompatible with the present attitude of the Dominion immigration department.

The course now being pursued, the improvement already made, and the fact that Canada fully realizes that the admission of undesirables to Canada does not mean what it formerly meant—i. e., that they would go out of Canada to the United States—but, on the contrary, that they will have either to be returned to the country whence they came or remain a menace to the health and well-being of Canadian citizens or a burden on the taxpayers of the urban centers of Canadian population, all strongly attest that further improvement must follow.

The Canadian government has had to deal with a situation that came suddenly into prominence, and in view of the natural opposition of interested parties to any drastic changes in the law or regulations, and in view of the further fact that public sentiment had to be created to support a policy of change in this all-important matter of immigration, it must be conceded that the forward steps taken have been highly important and praiseworthy.

The question of taxing aliens entering the United States from Canada—aliens who have resided in Canada for many years, but who have not become citizens of Canada—and aliens (who visit Canada) who have resided in the United States for many years, but who have not become naturalized, has given rise to much complaint on the part of such aliens and the transportation lines over whose routes they travel.

It is taken for granted by your border inspectors that the act of Congress levied said head tax on all aliens, except those specially exempted, entering the United States to settle therein, and it has been our aim to enforce the spirit as well as the letter of said act.

It does not seem rational to suppose that the Congress intended that this head tax should be collected from aliens who are bona fide residents of either side of the boundary line whose commercial interests require them to cross and recross the border daily, many of them several times a day.

It has been our policy to avoid as far as possible a course that would tend to inflict on the commerce of the two countries anything that is calculated to curtail it or to harass and annoy those engaged in its laudable promotion, and it is gratifying to know that the cordial support of the Bureau has been accorded us in pursuing this course.

The total amount of head tax collected by this office and remitted to the assistant treasurer of the United States at New York is as follows:

Quebec, Quebec; St. John, New Brunswick, and Halifax, Nova Scotia	$33,905
At all border stations	15,576
Total	49,481

All head tax collected by this office is received (by checks) from the transportation lines, as provided by section 1 of the act approved March 3, 1903, and never, under any circumstances, direct from the aliens. Receipts are always made in triplicate, one copy of which is forwarded to the Bureau at the time of issuance.

One year ago I reported that the Canadian Pacific Railroad Company had acquired, by purchase, the immigrant-carrying vessels of the Elder-Dempster Company, a company whose methods of doing an immigration trade were not at all in accord with the

requirements of our immigration laws, resulting in the disembarkation at Canadian ports of a very wretched mass of immigrants from the congested areas of continental Europe and the large cities of Great Britain.

The record of the last fiscal year (1903) shows the Elder-Dempster Company's returns to have been 15,892 destined for the United States, landed at Halifax, Nova Scotia; St. John, New Brunswick, and Quebec, Quebec, 307 of whom were deported for various causes, principally because they were contagiously diseased.

When the Canadian Pacific Railroad Company bought their fleet, it was fully expected that this state of things would cease, and to a certain extent those expectations have been realized. In weeding out the undesirables at point of embarkation an advanced step has been taken by the successors to the Elder-Dempster Company, and it is generally understood that even better results would have obtained except for the fact that it was necessary to maintain, for a time at least, the working force of Elder-Dempster agents, none of whom show any inclination to abandon the methods to which they have been so long accustomed.

A reference to Table 5 will serve to indicate that the Canadian Pacific Railroad Atlantic Line has carried only about half the number carried the year previous by the Elder-Dempster Company; the number of undesirables show about the same relative decrease.

The former half of the year shows a greater percentage of undesirables than the latter half, which is taken as an indication that the company is gradually divesting itself of those agencies which earned for the old company its unenviable record.

The Bureau will no doubt be interested in the returns of the Winnipeg office, showing as it does a remarkable decrease in its number of undesirables, particularly in the case of those afflicted with contagious diseases.

This gratifying condition is the sequal to the returns shown in Table 5 as compared with the previous fiscal year. This table indicates that the Hamburg-American Packet Company has this year carried approximately only one-third the number of aliens to the United States, via Canadian ports, that they carried last year, and in view of the fact that the abnormally large number of rejections at Winnipeg last year was largely drawn from the Hamburg-American Packet Company's passengers, it is only fair to infer that the present decrease is due to the decrease of business on the part of that company.

It is stated on good authority that a business compact between the Canadian Pacific Railroad Company and the Hamburg-American Packet Company will cut out entirely all arrivals at Canadian ports by the latter company, so that we may reasonably hope for a permanent discontinuance of the policy which last year made the Winnipeg station conspicuous as a center to which large numbers of diseased aliens were drawn.

During the present fiscal year two new stations have been added to our force and a full corps of officers has been established at each, including medical examiners.

The first one to be established was at Northport, Wash. This important station is the main outlet to the United States from the great and thriving mining camps of British Columbia adjacent to the Kootenai Lakes. These mining camps draw large numbers of miners from Europe, who, after working for a time, enter the United States in search of employment, taking the railway which enters the United States at Northport, about three hours' journey from Spokane, Wash.

The Bureau is aware that we had a board of special inquiry at the other extreme boundary of the State of Washington, at Sumas, but for some reason which for a time we could not understand the class of aliens these boards are established to examine avoided Sumas.

A thorough investigation clearly proved that instead of proceeding westward or eastward, as we had naturally expected, from the mining camps to Sumas or to Winnipeg, they crossed the mountain and entered the United States at Northport, as stated.

The Northport station has had a sufficient amount of work to do to fully justify its establishment, and in addition to its own work it has by its very existence forced back into its natural channel that stream of travel which we had expected would pass through the important gateway of Sumas, Wash.

I have placed in charge of each of these boards—Sumas and Northport—officers who have been specially trained for the discharge of the duties devolving upon them.

The second new station formed is at Yarmouth, Nova Scotia. This station is under the charge of an officer who gained his experience by a year's service at headquarters here, and I have every reason to believe that we shall be able to accord the traveling public patronizing seagoing vessels between Yarmouth and United States ports facilities for landing at Boston without the delay incident to inspection at point

of disembarkation, and at the same time prevent the embarkation of those aliens who are denied admission to the United States by the immigration laws.

Our force of inspectors, interpreters, and medical examiners has been needfully increased during the year, and now numbers, all told, 147.

By means of this increased force we have deemed it better to establish new stations, and to guard additional isolated avenues which were being utilized by aliens who wished to avoid inspection entirely, rather than to reduce the hours of duty which many of the inspectors are required by force of circumstances to serve, in numerous instances from twelve to sixteen hours, daily, and yet, notwithstanding this increased force, and the consequently enlarged field of operation, we have to report a total of only 2,928 rejections for all causes, as compared with a total of 5,158 rejections for all causes for the preceding fiscal year, and when it is considered that the decrease in the total arrivals is from 26,942 to 24,797, it will be self-evident to even a casual observer that the prediction you made last year (see p. 42, Report of Commissioner-General of Immigration for fiscal year ended June 30, 1903) has been amply realized:

"With the assistance of new legislation referred to, and with the advantage of the enforcement of similar laws for the exclusion of diseased aliens by the Dominion of Canada, the Bureau is sanguine that at the expiration of another year it will be able to report a much diminished arrival of such aliens at our ports."

An apparent discrepancy may be noted between the figures given showing rejections by the Montreal board of special inquiry (see Tables 1 and 11) and the medical examiner at the same station. Said discrepancy is to be thus accounted for: The figures given by the board are of those actually rejected, while the medical examiner's report accounts for 31 having been rejected but subsequently granted certificates of health, having been successfully treated for their respective diseases at the various Montreal hospitals.

It will be noticed that the total list of rejections contains 296 Canadians, but these should not be classed as all native Canadians, a large percentage of them being Canadian residents, but not citizens of Canada.

The large list of trachomatous applicants at Sault Ste. Marie, Mich., is to be accounted for on the ground that the disease has spread at Sault Ste. Marie, Ontario, because of the numerous rejections on account of said disease anterior to the legalizing of deportations by the Dominion government, and the difficulty is that they can not now be deported, because the law which is sufficient to deport newly arrived aliens can not be made retroactive. It is a pity that all those afflicted with this dreaded disease, now resident at that place, can not be isolated and treated successfully. If that were once done I am morally certain that there would be a very large decrease in rejections for this cause at Sault Ste. Marie, Mich. We have a very pleasing object lesson on this point in the excellent work accomplished along this very line in this Province during the past two years.

The excellent morale of your border force has been well maintained during the year, and it affords me great pleasure to record the fact that this result has been achieved in spite of exceptional difficulties at times.

Steamers have been boarded on arrival from European ports and inspections made according to law without undue inconvenience to the passengers or detriment to the owners. The vessels on the Great Lakes, the boats on the rivers, the trains, trolleys, and all other vehicles have been likewise made subject to the immigration laws, thus affording absolute evidence that the entire northern boundary line to foreign contiguous territory is as much under your control and direction in this respect as the ocean ports where the mammoth ships deliver their passengers from the remotest parts of the earth.

Table 9, it will be observed, gives a condensed and yet a comprehensive account of our dealings with smugglers during the year, and the Bureau will notice a decrease in the number of arrests, which may be taken as an indication that the penalties already inflicted are having a salutuary effect. We have had similar prosecutions on account of smuggling Chinese persons into the United States, but having reported all such cases to the appropriate Chinese inspectors no report of them is deemed necessary in this connection.

I invite your scrutiny of the following table (No. 12), which will serve to inform you that 122 trains, 312 boats, and 138 electric cars enter the United States every twenty-four hours from Canada, every one of which is met by one or more competent inspectors, regardless of the hour of its arrival.

TABLE 12.—DAILY ARRIVAL OF TRAINS, BOATS, AND ELECTRIC CARS IN THE UNITED STATES FROM THE DOMINION OF CANADA, FOR THE YEAR ENDING JUNE 30, 1904.

ARRIVALS BY RAILROAD LINES.

Point of entry.	Michigan Central.	Grand Trunk.	Toronto, Hamilton and Buffalo.	Wabash.	Great Northern.	New York and Ottawa.	Canadian Pacific.	"Soo" Line.	Delaware and Hudson.	Rutland.	Canada and Atlantic.	Spokane Falls and Northern.	Canadian Northern.	Central Vermont.	Boston and Maine.	Erie.	Total.
Alburg, Vt	....	....	....	....	....	....	....	....	....	2	1	....	....	....	....	....	3
Black Rock, N. Y	5	3	3	1	....	....	....	....	....	....	....	....	....	....	....	....	12
Blaine, Wash	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	1
Beaudette, Minn	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	2
Calais, Me	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	2
Detroit, Mich	8	4	....	5	....	....	3	....	....	....	....	....	....	....	....	....	20
Fort Fairfield, Me	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	2
Fort Covington, N. Y	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Gateway, Mont	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	a1
Houlton, Me	....	....	....	....	....	....	4	....	....	....	....	....	....	....	....	....	4
Lowelltown, Me	....	....	....	....	....	....	3	....	....	....	....	....	....	....	....	....	3
Nyando, N. Y	....	....	....	....	....	3	....	....	....	....	....	....	....	....	....	....	3
Neche, N. Dak	....	....	....	....	2	....	....	....	....	....	....	....	....	....	....	....	2
Newport, Vt	....	....	....	....	....	....	3	....	....	....	....	....	....	....	6	....	9
North Stratford, N. H	....	3	....	....	....	....	....	....	....	....	....	....	....	....	3	....	6
Northport, Wash	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	3
Niagara Falls, N. Y	2	9	....	2	....	....	....	....	....	....	....	....	....	....	....	2	15
Portal, N. Dak	....	....	....	....	....	....	....	3	....	....	....	....	....	....	....	....	3
Porthill, Idaho	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	a1
Pembina, N. Dak	....	....	....	....	....	....	2	....	....	....	....	....	1	....	....	....	3
Port Huron, Mich	....	6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6
Rouses Point, N. Y	....	....	....	....	....	....	....	....	4	....	....	....	....	....	....	....	4
Sweet Grass, Mont	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	a1
Sumas, Wash	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	1
Sault Ste. Marie, Mich	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	2
St. Albans, Vt	....	....	....	....	....	....	....	....	....	....	....	....	....	6	....	....	6
Vanceboro, Me	....	....	....	....	....	....	3	....	....	....	....	....	....	....	....	....	3
Warroad, Minn	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	2
Total	15	27	3	8	6	3	25	3	4	2	1	3	5	6	9	2	122

a Triweekly service.

ARRIVALS BY BOATS.

Point of entry.	Number.	Point of entry.	Number.
Black Rock, N. Y	a19	Morristown, N. Y	8
Charlotte, N. Y	2	Newport, Vt	3
Cape Vincent, N. Y	1	Ogdensburg, N. Y	a13
Calais, Me	1	Port Huron, Mich	a38
Detroit, Mich	a132	Sault Ste. Marie, Mich	a75
Duluth, Minn	2	St. Clair, Mich	7
Eastport, Me	5		
Lewiston, N. Y	6	Total	312

a Steam ferries.

ARRIVALS BY ELECTRIC CARS.

Point of entry.	Number.
Calais, Me	32
Niagara Falls, N. Y	106
Total	138

RECAPITULATION.

Passenger trains	122
Passenger and ferry boats	312
Electric cars	138

A complete record of each of these trains, boats, and cars is kept on file here, and is accessible to you at all times, a perusal of which will enable you to ascertain when each one actually entered the United States on each day.

The railway companies, who are signatories of the agreement by virtue of which all of the work herein reported was done, continue to manifest a perfectly satisfactory attitude toward us in the discharge of our duties, and the Canadian government officials evince a spirit of cooperation, which augurs well for the continuance of a policy which can not fail, if prudently and effectively prosecuted, to yield profitable returns to both countries—Canada and the United States—by eliminating from their would-be respective residents and future citizens, those pitiable mortals, whose afflictions are too grevious to be self-borne, or whose ailments are such as to render them a menace to any person with whom they come into contact.

Respectfully,

ROBERT WATCHORN, *Commissioner.*

Hon. F. P. SARGENT,
Commissioner-General of Immigration,
Department of Commerce and Labor, Washington, D. C.

STATIONS.

It is a matter of regret that circumstances have made it impracticable to complete the buildings on Ellis Island and to make the extensions thereof for which appropriations were provided by Congress. The additional accommodations are indispensable to the completeness of the Bureau's plans for handling the great number of arrivals at that station with dispatch and with due regard to the comfort and hospital care of aliens in need of medical treatment. This delay is due to the cause stated in the last report. The ejectment proceedings instituted against the Government, based upon alleged defect in its title to the property, continue unsettled; and, while there is a doubt as to the ownership of the island, it is deemed imprudent to make any more expenditures for improvements thereon than are necessary for the maintenance in good order of the structures already erected.

The rubbish surrounding the recently erected building has, however, been removed and the grounds have been put in order, so as greatly to improve the appearance of the island, and certain indispensable alterations have been made in the building. Every means at the command of the Government should be exerted to hasten a determination of the action of ejectment and the perfecting of the Government's title to the property, so that the contemplated improvements, the need of which has already been fully explained, may be made.

At the port of Boston, as a result of the action of the principal transportation lines engaged in bringing aliens thereto, a very commodious station has been constructed, where all aliens may be landed and suitably cared for pending a decision as to their right to land. Thus much suffering and discomfort, incident to former conditions, experienced heretofore by the arrivals, have been avoided, and the work of officers has been expedited and made less arduous by concentration virtually at one point.

Similar improvements, though on a somewhat smaller scale, have been made at the receiving station in Baltimore, at the cost of the Baltimore and Ohio Railway Company, over whose lines most of the aliens traveling to inland destinations are taken.

These improvements at Boston and Baltimore serve to render more conspicuous the needs of the port of San Francisco. At the latter, not only do aliens have to be inspected under the immigration laws, but, as the principal port of entry for Chinese passengers, there are especially

urgent requirements for the accommodation of such arrivals. The Chinese are now detained in very insufficient quarters erected by the transportation lines by which they are brought to the United States. These buildings, while somewhat improved recently, as stated in the last report, are yet insufficient in respect to accommodations and to security against the escape of inmates or access to them by outsiders who endeavor to apprize them of the means of securing admission, if need be in violation of law.

In the judgment of the Bureau, it is essential to good administration, as well as to humane care for aliens who seek admission at this port, that a properly arranged and secure building be erected at San Francisco at the earliest practicable date.

The Bureau is gratified to be able to report satisfactory progress in the construction of the new station at the port of Honolulu, Hawaii. Here also the necessity of providing both for the inspection of Chinese arrivals and other aliens, justified the appropriation made by Congress for that purpose.

Under agreement with the Canadian Pacific Railway Company, referred to in another part of this report, buildings suitably altered to meet the uses to which they are put have been leased, furnished, and placed in charge of Chinese inspectors and necessary assistants at each of the border ports: Richford, Vt., Malone, N. Y., Portal, N. Dak., and Sumas, Wash.

With the exception of the building at Malone, N. Y., which was temporarily overcrowded in consequence of the conditions described hereinafter, these new Chinese stations have been found to accomplish the purpose for which they were secured very satisfactorily.

As recommended in the last annual report, suitable provisions should be made for the establishment at the principal ports of arrival in the United States, especially at Ellis Island, New York, of buildings to be used for the display of charts and for the dissemination of information to arriving aliens as to the advantages offered for settlement in various parts of the United States. Such buildings, while under the supervision of the Bureau, should be, as far as practicable, open, under regulations, to the representatives of the various States and Territories and the principal inland transportation lines, and possibly to other agencies, thus securing the cooperation of those interested in obtaining labor or settlers, in the important work of distributing such arrivals to those points which offer the strongest inducements, either in the way of profitable employment or cheap homes.

ELLIS ISLAND STATION.

As the principal port of entry for aliens, it is deemed advisable to present in full a report of the administration at Ellis Island for the past year.

OFFICE OF THE COMMISSIONER,
New York, N. Y., September 15, 1904.

SIR: I have the honor to forward herewith the annual report concerning the Ellis Island immigrant station for the fiscal year ended June 30, 1904:

INSPECTION OF IMMIGRANTS.

During the past fiscal year there passed through Ellis Island about 526,000 aliens. While these figures are somewhat less than those of the previous fiscal year, yet the work of inspecting the smaller number of aliens has been sufficient to tax to the

utmost the working capacity of the Ellis Island force. The statutes place an unusually difficult task on the Immigration Service, because, among other things, they require the application annually to thousands of human beings of such indefinite tests as those of pauperism and likelihood of becoming a public charge. To endeavor to discharge correctly this work is worthy of the best efforts of any official.

For the purpose of guiding officials in the application of these indefinite tests a few general rules have been formulated. A little consideration will show that in the absence of any statutory provision the amount of money which an alien may have is only one of many elements to be considered in determining whether or not he is a pauper or a person likely to become a public charge, and that some aliens may be admitted with small amounts, while others can not be admitted even with considerable amounts. It is, however, obviously proper in any case to require that an alien before landing be provided with funds sufficient to enable him to care for himself until such time as he can find profitable employment. Due consideration has been given to the foregoing in laying down the following rules for inspection:

"Aliens with small amounts of money will be admitted only in exceptional cases, as where they are strong and intelligent persons with no one dependent upon them, and it is reasonably certain that they will be able to secure profitable employment before their funds are exhausted.

"While an alien should not as a rule be allowed to land without sufficient funds to enable him to provide for himself until such time as he will be likely to secure profitable employment, yet the really vital point for determination in each case is whether or not he will in fact be able to secure such employment and become self-supporting. The determination hereof involves a close inquiry into his real occupation; his physical and mental aptitude therefor; the abillty of residents of the United States with similar occupations to secure employment at the time in question; the general conditions of the labor market, and other material matters.

"The mere possession of money in ordinary amounts without such ability to become self-supporting does not qualify an alien to land."

In this connection it is proper to mention the following notice sent from this office May 23, 1904, with the approval of the Commissioner-General, to the owners of all vessels carrying immigrants to the port of New York to warn such owners against bringing here persons who would at the outset be destitute:

"Immigrants are frequently brought to New York with small sums of money which are manifestly inadequate for their support until the time when they are likely to obtain profitable employment. This office will, as a rule, detain all such immigrants, and if those who may appear to be otherwise qualified be eventually allowed to land, this will occur only after they have received sufficient funds for the above purpose.

"You can assist in reducing materially the detention of immigrants at Ellis Island by giving due publicity abroad to the foregoing."

It is to be regretted that more time can not be spent in the inspection of all immigrants at Ellis Island. The present inspection is probably as thorough and complete as existing conditions permit, and intolerable crowding and congestion now exist in all detention quarters on days when large numbers arrive. Without the use of the commodious sidewalks for detention purposes the present standard of inspection could not be maintained. A large percentage of those who arrive will doubtless always be found qualified to land after a brief inspection, but as to a considerable minority this is not the case. Many falsehoods are told by immigrants as to their occupation, condition, and addresses of relatives or friends, and whether or not they come here in violation of the contract-labor law. I should like to be able to test by investigations the accuracy of many of these statements to a far greater extent than is now possible. Such investigations are made whenever practicable, with the result that the real facts concerning occupation and alleged relatives or friends are often totally different from those sworn to here. When an immigrant states that he is a carpenter or joiner it happens to be possible to ascertain whether or not he tells the truth through the Government carpenters and joiners employed at Ellis Island, and in a large percentage of cases the information given is shown to be false. This fact suggests the desirability of establishing here means of determining as to doubtful aliens claiming to be tailors, shoemakers, bakers, etc., whether or not they are in fact such, and I have no doubt that such tests would result in many additional exclusions. The office records relating to immigrants once landed and subsequently applying for relief show numerous instances in which aliens have been admitted on false statements of facts, the Government being at the time unable to learn the true facts.

If it is difficult to determine at Ellis Island who are paupers and who are likely to become public charges, it is no less difficult to ascertain which aliens come here in violation of the contract-labor law. Investigations abroad have shown that aliens

are there coached by agencies working in opposition to United States laws to state that they do not come here under contract to work. The execution of the contract-labor law will always be a difficult task on account of the ease with which it can be evaded through false testimony. A Federal court has recently ruled that the decision of a board of special inquiry admitting persons who are, in fact, contract laborers, though this fact was not known, is nevertheless final. This decision, if sustained, will render it impossible to deport contract laborers found to be such after they have entered the country, though their admission was secured on false testimony, in which event an appropriate amendment should be inserted in section 25, so that the decision of the board will no longer be final if favorable to the admission of the alien; otherwise sections 20 and 21 will lose much of their present value. Recognizing the fact that the person most guilty is the contractor in this country who induces the emigrant to come here in violation of law, every effort is made to bring about his punishment by reporting to the appropriate United States attorney for prosecution all cases in which there is reason to believe that the evidence may result in conviction. But there is no disguising the fact that convictions are not readily secured under existing statutes, and the detention of the immigrant at Ellis Island as a witness for several months in inadequate quarters is very inconvenient. The only alternative is to take his testimony de bene esse under section 863 of the Revised Statutes. Such evidence does not, however, have the same weight with a jury as the alien's oral testimony would have.

DETAINED IMMIGRANTS.

The work of investigating and making proper disposition of the cases of detained immigrants and caring for such immigrants during detention is enormous, and one of the purposes of the notice hereinbefore referred to was to induce the steamship lines responsible for the largest number of detentions to reduce them by making more careful investigation abroad into the qualifications of their immigrants. These detentions vary greatly in the cases of the different steamship companies, due to the fact that some bring a far more desirable class of immigrants and more carefully inspect those that they bring than do others. Detained immigrants are fed by the Government at an expense to the steamship companies of 30 cents per diem for each immigrant. Tables have been prepared showing the average amount of such expenses to the several companies on the whole number of immigrants carried by each between October, 1902, and May, 1904. Such average amounts are found to range from 6 cents to 22 cents. The Hamburg-American, Prince, and Holland-America steamship companies are found to pay the greatest average per capita amount (about 20 cents), while the Scandinavian-American and White Star steamship companies are found to pay the smallest average per capita amount (about 6 cents). The first-named bring immigrants chiefly from southern and southeastern Europe, the new field from which immigration is mainly recruited, and the relative detention expenses are in their cases from three to four times greater than in the cases of the two last-named companies, which bring immigrants chiefly from sections of northern Europe. It lies within the power of each steamship line to reduce to a very small amount the detention expenses of immigrants at Ellis Island, either by bringing a better class of immigrants or by inspecting them more closely, or both. Such action would result at the same time in a material decrease in the time and work now expended by Government officials in the inspection of generally undesirable immigrants, who, when they come here, are not "clearly and beyond a doubt entitled to land."

DEPORTATION OF IMMIGRANTS ONCE LANDED.

Even with the exercise of the greatest care it can not be hoped to prevent the entry into the country of all persons who are "likely to become public charges." Congress had this fact in mind when it enacted that in certain specific instances aliens who within stated periods are found "to have entered the United States in violation of law" or "who shall be found public charges therein from causes existing prior to landing" shall be deported. During the past year about 1,800 indigent aliens came or were reported to this office. This represents only a portion of the aliens in the United States who actually became indigent during this period, and it is due largely to the failure of the heads of charitable and penal institutions to report the remainder that their cases were not acted upon by the Government. The heads of these institutions should be again urged to report all such cases promptly. Each one coming to the attention of this office was investigated with care and deportation recommended wherever possible under existing laws and regulations. The fact that less than half of this number were deported shows, in my opinion, that the country is not being relieved to the extent that it should be of aliens who after entry have proved to be undesirable.

Deportation of aliens who have been once landed occurs at the expense of the steamship company which brought them, under section 20 of the act of March 3, 1903, which is as follows:

"SEC. 20. That any alien who shall come into the United States in violation of law, or who shall be found a public charge therein, from causes existing prior to landing, shall be deported as hereinafter provided to the country whence he came at any time within two years after arrival at the expense, including one-half of the cost of inland transportation to the port of deportation, of the persons bringing such alien into the United States, or, if that can not be done, then at the expense of the immigrant fund referred to in section one of this act."

Only those cases are now held to come within this section in which some physical disability is certified by the surgeons to be the cause of the alien becoming a public charge. I do not find this limitation in the law, which I believe to be susceptible of a much broader interpretation. It seems to me that under it all aliens who were in fact at the time of admission paupers or persons likely to become public charges, though this fact may not have been detected at the time of inspection, should be deported. While every effort is made to determine the vital facts before admission, yet it is not to be expected that all persons belonging to the excluded classes can be detected unerringly in the relatively short space of time allotted for the inspection of, say, 600,000 immigrants in one year. The difficulty of the work is, as heretofore shown, much increased through false statements by the immigrants as to their trade or occupation, the condition and addresses of relatives or friends, and whether or not they are "assisted" immigrants. I have, therefore, to recommend that in all future instances in which, within the statutory period, aliens have become public charges in the United States and the surgeons fail to certify that this is due to any physical or mental defect, an investigation be made, preferably by a board of special inquiry, with a view to determine whether or not they were in fact paupers or persons likely to become public charges at the time of landing. It is not to be expected that immigrant inspectors will reject an alien of fair appearance with, say, $100, who swears that he has a trade at which he has in the past earned a living, and gives the address of an alleged relative, and yet if this alien was in fact sent here by persons who wished to get rid of him, if he is and always was shiftless, has no trade or relative, and the $100 is his only capital, he is almost certain within a short time to become a public charge, and he would not have been admitted had the facts been known. Cases in which some or all of these facts exist are constantly coming to the notice of the authorities. Such persons should be sent out of the country at the expense of the steamship companies bringing them. If, to accomplish this, it be necessary to amend the law, then I recommend that this be done at the earliest practicable moment. I will go a step further. The number of aliens receiving public aid in the United States, as shown by the Bureau's recent investigation of the penal and charitable institutions of the country, is such as to warrant the enactment of a law under which aliens who, within one year, become paupers or public charges may be deported irrespective of whether or not the causes existed prior to landing.

ALIEN SEAMEN.

Alien seamen are not subject to inspection when they land with the intention of reshipping on an outward-bound vessel at the earliest practicable moment. The extreme difficulty of applying any such rule is obvious, and it furnishes a means by which aliens may come to the United States on the ship's articles, and, by deserting, enter the country without inspection. Many of the steamship companies fail to report such desertions promptly or at all, thereby rendering it difficult to arrest the deserters. I regret to say that some unscrupulous steamship officers, not requiring the services of seamen for the return voyage, connive at their desertion. Recently evidence was obtained whereby an officer of a steamer was convicted of violating section 8 of the act of 1903, in landing a sailor at the pier at Brooklyn who had paid his passage in part and was also on the ship's articles to work for the remainder. Criminal proceedings were at once instituted and a conviction secured. At the trial the alien testified that, when he embarked at Constantinople, he had a distinct understanding with the officers of the vessel that he would be permitted to land in Brooklyn and be considered a deserter.

ESCAPES FROM VESSELS.

From time to time a steamship company omits to bring to Ellis Island an immigrant for inspection. In such instances it is required to state why it failed to do so, and if the explanation is unsatisfactory, as is generally the case, the Government's

only recourse is to cause criminal proceedings to be instituted under the following section of the immigration law:

"SEC. 18. That it shall be the duty of the owners, officers, and agents of any vessel bringing an alien to the United States, to *adopt due precautions* to prevent the landing of any such alien from such vessel at any time or place other than that designated by the immigration officers. * * *"

Notwithstanding the difficult task of showing that the owners failed in such instances to take due precautions, yet several successful prosecutions have occurred, and the masters of vessels have beeu fined for not producing aliens at Ellis Island. I fail to see why the owners of vessels should be required only to "adopt due precautions to prevent the landing, etc." They should be required in positive terms "to prevent the landing, etc." I recommend that this section be amended to read substantially as follows:

"SEC. 18. That it shall be the duty of the owners, agents, and consignees of any vessels bringing aliens to the United States to prevent the landing of any alien from such vessel at any time or place other than that designated by the immigration officers, and for each and every violation hereof such owners, agents, and consignees shall be deemed guilty of a misdemeanor and shall, on conviction, be punished by a fine for each alien who shall land in violation hereof of not less than one hundred nor more than one thousand dollars, or by imprisonment for a term not exceeding one year, or by both such fine and imprisonment; and every such alien so landed shall be deemed to be unlawfully in the United States and shall be deported, as provided by law."

FINES.

During the past fiscal year this office has recommended that the Secretary impose, pursuant to section 9 of the immigration law, fines aggregating over $31,000 upon the several steamship companies which have from time to time brought here aliens suffering from loathsome or dangerous contagious diseases, and the Government has actually collected this amount from the steamship companies. Trachoma, tuberculosis, and favus are the diseases with which such aliens were in most instances afflicted.

BUILDINGS, GROUNDS, AND IMPROVEMENTS.

The inadequacy of the Ellis Island plant for the proper transaction of the enormous amount of public business requiring attention at this immigrant station has been pointed out in each of my last two annual reports. Excepting in relation to the extension of the main building, Congress has been very generous in its appropriations, and many necessary extensions and improvements have been introduced. Contracts of this character aggregating over fifty in number have been let and executed during the past year, and a new steel ferryboat of the latest type has been built and is now performing regular service. No reasonable effort is spared to mitigate the necessarily unpleasant features incident to the detention of immigrants. Their quarters are constantly cleaned and disinfected and frequently repainted. At an expense of nearly $4,000 a sanitary and attractive immigrants' dining room has been installed at a point formerly used for detention purposes, such dining room being tiled to a height of 5 feet and having a terrázzo floor, all of the best quality. During warm weather detained immigrants are kept out of doors as much as possible, a portion of them on the westerly roof garden fitted with awnings and benches, and another portion of the broad granolithic sidewalks on the northerly side of the building where they can move about in the shade. At the Commissioner-General's suggestion special provision has been made for the amusement of detained children by converting a portion of the roof garden into a playground, where they may enjoy fresh air and various kinds of amusements. Four extensive lawns, surrounded by privet hedges, now give the island and attractive appearance.

I urge again that both wings of the main building be extended northerly a sufficient distance to provide additional quarters for detention purposes, for the medical examination, for the use of board of special inquiry, for witnesses awaiting their turn to appear before these boards, and for general clerical purposes. The facilities for transacting public business at Ellis Island should be adequate in every particular. The immigration service is self-supporting and any necessary additional revenue can be readily obtained by increasing the head tax on immigrants from the small sum of $2 to such other amount as may be necessary. The only opposition to such increase would be based upon reasons with which the Government is not concerned.

NATURALIZATION FRAUDS.

Recent experiences at this office lead to the conclusion that naturalization frauds are perpetrated both by residents of this country and persons abroad to an extent that is appalling, and until Congress enacts proper laws on this subject most of the instances of such frauds are bound to go undetected and unpunished. The task of detecting them is enormous. Naturalization certificates are issued to-day in such different forms as may best suit the various courts in each State which are authorized to issue them. The lack of uniformity is so great as to render it difficult for any but an expert to determine whether or not they are fraudulent. Their issue is surrounded by none of the precautions which are taken in respect of the issue of many papers of far less value. It is not the immediate business of this office to detect naturalization frauds, and yet, as an incident to its other work it has within a very recent period called the attention of the Department of Justice to the cases of nearly 100 persons who have been thereafter convicted in New York City alone of the crime of possessing fraudulent certificates of naturalization and served sentences in Ludlow Street jail. The situation is one which calls loudly for relief, unless the people are willing that the miserable business of manufacturing bogus citizens shall continue to thrive. The subject is national in character and should be regulated and controlled by the Federal authorities in the most thorough and stringent manner.

UNDESIRABLE IMMIGRATION.

Some of the causes of undesirable immigration lie on the surface. One of them is the continued violation of section 4 of the act of March 3, 1891, which prohibits transportation companies directly or indirectly to encourage immigration except by ordinary commercial letters or oral representations "stating the sailings of their vessels and the terms and facilities for transportation therein." The fact is that certain portions of Europe are being scoured for immigrants by persons who receive commissions upon all tickets sold through their efforts. Whoever drafted this section had a very clear conception of one of the worst evils incident to present immigration, namely, the artificial stimulation thereof by interests operating in disregard of the welfare and even the laws of the United States. This important section should be amplified and reenacted with such severe penalties for its violation as will make it susceptible of ready enforcement.

Another reason why so many undesirable immigrants are coming here is that a considerable portion are of the assisted class. As a rule, that man will be the better immigrant who comes of his own initiative and with his own money. Much has already been written on the evils of assisted immigration. I quote the following from the excellent chapter on this subject in Mayo-Smith's book on immigration:

"During recent years emigration of paupers and poor people from Europe has been assisted in various ways: By poor-law authorities; by charitable societies and persons; by remittances and prepaid tickets from relatives and friends in this country; and by steamship agents and brokers who have made it a business to induce people to emigrate and have advanced money to them or paid their passages and collected the sum after their arrival. When we take all these together we shall see that a very large percentage of the immigration is stimulated in various ways.

"There is another form of encouraging emigration from the other side of the water which, in many of its aspects, scarcely deserves to be ranked under the head of 'assisted,' while in other phases it reveals the most demoralizing influence, deserving the severest condemnation and the strictest measures of repression. I refer to the assistance sent back from this country by emigrants and persons already here. This assistance takes on one of two forms, either of remittances of money to friends and relatives at home in order to enable them to come, or of prepaid tickets. * * * There is a steady stream of money going from this country, to be used largely for the purpose of bringing persons here."

A very large percentage of the present immigration is of the assisted class. I believe that assisted immigration should be prohibited, subject to reasonable exceptions in cases of very close and otherwise eligible relatives, such as fathers, mothers, children, brothers, and sisters of responsible aliens who have already resided here a sufficient length of time.

We are receiving too many immigrants whose physical condition is poor. The law now excludes idiots, insane persons, epileptics, and those suffering from a loathsome or a dangerous contagious disease. To exclude aliens suffering from other physical or mental ailments it is generally necessary to show that they are likely to become public charges, and yet it is obviously impossible to exclude on this ground all persons whose physical condition is poor. I think that in all instances in which

the United States Marine-Hospital surgeons who conduct the medical examinations at the immigrant stations certify in writing that the physical condition of an immigrant, dependent for support upon his own physical exertions, is below a certain standard to be designated by them by some appropriate term, whether this be "low vitality," "poor physique," or some other similar expression, or that he is "senile," such immigrant should be excluded, subject to certain reasonable exceptions of the character described in the preceding paragraph.

In considering the proposed illiteracy test it is to be remembered that while illiteracy does not of itself necessarily render an immigrant undesirable, yet the statistics show that much of the immigration which is undesirable on other grounds consists of persons who are illiterate. It is interesting to note that while the percentage of illiteracy amongst the north Italians is only 13, yet it is as high as 48 among the south Italians. We are receiving nearly six times as many south Italians as we are north Italians, and yet the latter are far more desirable immigrants than the former.

One member of a large family from eastern Europe, composed of a father, mother, and six children all under 10 years of age, with hardly any money, and bound for the tenement district of New York City, was recently asked at Ellis Island how he intended to provide a competent subsistence for his family if allowed to land. He answered; "What do I care for a big house if I can get one room to sleep in. That is all we want; that is the way we did in Russia."

This particular family was excluded. But we are receiving many other families of a similar character bound for the tenement districts of our large cities, and with aspirations as narrow as those above described, whom it is not possible to exclude under existing law; for it does not necessarily follow that they are likely to become public charges from the fact that they will go to an overcrowded tenement district and occupy inadequate quarters. It is full time, however, for us to appreciate the fact that the settlers who made the country great belonged to a totally different class of people from those described and came here with loftier views of their prospective future, and that a desire to emigrate can no longer be regarded as evidence of initiative, thrift, or courage.

This rapid filling up of the country with foreign elements, representing often the poorest classes in their own homes and differing in blood and customs from those constituting the backbone of the United States, is sure to be at the expense of national character. It is sheer folly for a country with a population of 80,000,000 to increase deliberately the difficulty of solving its already great social and economic problems, and to add to the burdens of its educational and charitable institutions by continuing to admit elements of the character described. Aliens have no inherent right to come here, and only those should be allowed to do so whose presence will be of real benefit to the country; and, laying aside all sentimental considerations, steps should be taken to bring this about before further mischief shall have been done.

Respectfully,

WILLIAM WILLIAMS, *Commissioner.*

The COMMISSIONER-GENERAL OF IMMIGRATION,
Washington, D. C.

NEW YORK HARBOR,
Ellis Island, August 31, 1904.

SIR: I have the honor to submit the following report for the fiscal year ended June 30, 1904:

There were inspected upon arrival 535,579 steerage passengers (aliens) and 98,232 cabin passengers (aliens), making the total number of aliens inspected 633,811.

Four thousand eight hundred and two arriving aliens were certified for physical or mental defects, including dangerous contagious or loathsome diseases, chronic in character, insanity, epilepsy, idiocy, mental weakness, and diseases affecting ability to earn a living.

In addition to the certified cases proper 17,422 arriving aliens having minor defects were brought to the attention of the immigration officers.

Five thousand one hundred and fifty-five aliens, including 435 applying for relief after landing, were admitted to hospitals for care and treatment, as follows: Immigrant hospital, Ellis Island, miscellaneous diseases and injuries, 3,953; Long Island College (contract) Hospital, miscellaneous diseases and injuries, 570; city health department (contract) hospitals, acute contagious diseases, 632.

The decrease in immigration at this station during the year ended June 30, 1904, as compared with the year immediately preceding is shown by the following table:

Classification.	1903.	1904.
Steerage passengers	605,341	535,579
Cabin passengers	84,047	98,232
Total	689,388	633,811

I may add, however, that, in addition to the number of aliens as above reported, 21,692 steerage and 91,715 cabin passengers arrived and, after primary inspection, proved to be citizens of the United States, thus making the total number of passengers inspected upon arrival, during the year ended June 30, 1904, 747,218.

The proportion of aliens certified on account of loathsome or dangerous contagious diseases was about the same as for the preceding year, notwithstanding the large number rejected at Naples, or at least advised, by the United States medical officer on duty at that port, not to embark; and the efforts said to have been made by the steamship companies at other foreign ports to prevent the embarkation of aliens suffering from such diseases. It is proper to add that the majority of these cases did not come by way of Naples.

The facilities provided by the commissioner, a little over a year ago, for a double line of medical inspection at Ellis Island, have been maintained during the year, and it is quite possible that a number of aliens suffering from excludable disease, especially trachoma, might have been overlooked, but for the double line referred to, and the time afforded thereby for more careful examination especially the turning of all eyelids and for the most part during the hours of daylight.

Other important facilities, for which there is still a crying need, are larger and more suitable rooms for special medical examination of aliens turned aside from the line.

All the space of the office rooms now occupied by the medical officers and clerical force should be added to the rooms for special examinations, and other accessible and suitable office rooms should be assigned for the use of the medical officers and clerks. This, in my opinion, is the only practical solution of the problem at present, and until such time as additional space can be made available by enlarging the building and rearranging the plan so that all the line work in connection with the medical examination of aliens can be performed on the ground floor.

The contract with the Long Island College Hospital was continued during the year, also the contract with the city health department, and the same unsatisfactory arrangement will be necessary during the current year and until the proposed extension and additions to the general hospital on Ellis Island and the new island near Ellis Island, for the erection thereon of suitable hospital buildings for the care of aliens suffering from acute contagious diseases, shall have been constructed.

A summary and detailed reports of hospital transactions, race, and sex of aliens admitted to hospital during the fiscal year ended June 30, 1904, race of aliens deported on medical certificates, nativity and race of aliens certified for trachoma, nativity and sex of aliens admitted to hospital, race of immigrants deported within one year after landing, work of medical examiners, clerical work, balance sheet, disposition of cases certified, including cases pending from previous year, and medical and surgical report of diseases and injuries treated in hospitals, are herewith transmitted.

In presenting this report I again have the pleasure of commending the efficiency of the official staff of this office and acknowledging the courtesies of the commissioner and other officials of the Immigration Service at this station.

Respectfully submitted.

GEO. W. STONER,
Surgeon, Public Health and Marine-Hospital Service, in charge.

The COMMISSIONER OF IMMIGRATION,
Ellis Island, New York.

Summary of Hospital Transactions, Fiscal Year ending June 30, 1904.

Number of patients in hospital at beginning of year	436
Patients admitted to hospital during year	5,155
Total treated (men, 2,755; women, 1,341; male children, 778; female children, 717)	5,591
Births (male, 7; female, 3)	10
Deaths (men, 30; women, 10; male children, 30; female children, 31)	101
Pay patients treated during year	5,259
Free patients treated during year	332
Days treatment for pay patients	54,662
Days treatment for free patients	5,008
Total days treatment for hospital cases	59,670
Average daily attendance in hospital	163
Patients in hospital at the end of the year	158

Detailed Report of Hospital Transactions.

Hospital.	Remaining.	Admitted to hospital during year.	Total treated.	Recovered.	Improved.	Not improved.	Died.	Remaining.	Days treatment.
Immigrant hospital	232	3,958	4,185	2,261	842	966	45	51	36,679
Health Department	57	570	627	520	.....	.....	36	71	10,163
Immigrant wards of the Long Island College Hospital	147	632	779	499	45	199	20	36	12,828

Race and Sex of Immigrants Admitted to Hospital during Fiscal Year ending June 30, 1904.

Race.	Men.	Women.	Children.		Total.
			Male.	Female.	
African	1	6	.....	15	22
Albanian	.....	.....	2	.....	2
Armenian	17	6	4	4	31
Bohemian	27	23	10	11	71
Bulgarian	13	3	.....	.....	16
Croatian	58	16	11	7	92
Cuban	.....	.....	1	.....	1
Dalmatian	13	2	.....	.....	15
Dutch	15	5	6	4	30
East Indian	8	.....	.....	.....	8
English	34	15	5	10	64
Finnish	20	26	15	11	72
French	23	20	10	15	68
German	229	150	95	112	586
Greek	83	3	6	2	94
Hebrew	352	209	159	124	844
Irish	46	34	4	3	87
Italian (south)	759	269	162	138	1,328
Italian (north)	109	20	10	24	163
Japanese	4	.....	.....	.....	4
Lithuanian	85	55	24	21	185
Magyar	76	61	22	16	175
Mexican	1	.....	.....	.....	1
Montenegrian	6	.....	.....	.....	6
Polish	213	137	70	66	486
Portuguese	3	.....	.....	.....	3
Roumanian	8	2	.....	.....	10
Russian	9	3	1	3	16
Ruthenian	47	25	7	5	84
Scandinavian	75	49	26	19	169
Scotch	11	6	5	5	27
Servian	2	2	2	.....	6
Slovak	86	39	19	20	164
Spanish	8	1	.....	.....	9
Syrian	63	33	15	29	140
Transylvanian	8	.....	.....	.....	8
Turkish	14	.....	.....	.....	14
Welsh	1	1	.....	.....	2
West Indian	17	4	4	.....	25
All other races	24	1	2	.....	27
Total	2,568	1,226	697	664	5,155

RACE OF IMMIGRANTS DEPORTED ON MEDICAL CERTIFICATES.

Race.	Men.	Women.	Children.		Total.
			Male.	Female.	
African		1			1
Armenian	9	4			13
South American	1				1
Bohemian	9	5		1	15
Bulgarian	4				4
Croatian	27	2			29
Cuban	1				1
Dalmatian	3				3
Dutch	3	1			4
East Indian	4				4
English	7	1			8
Finnish	7	13			20
French	10	1			11
German	65	15	2	6	88
Greek	44	1			45
Hebrew	168	36	11	4	219
Irish	11	13			24
Italian (south)	339	32	6	8	385
Italian (north)	28	4	1	1	34
Lithuanian	41	19	1	2	63
Magyar	31	10			41
Montenegrin	1				1
Polish	123	35	4	5	167
Roumanian	4				4
Russian	6				6
Ruthenian	24	5	1	2	30
Scandinavian	20	4	1	2	27
Scotch	4				4
Slovak	36	5			41
Spanish	7		1		8
Syrian	26	9	1	3	39
Turkish	18		1		19
Welsh	2	1			3
West Indian	4	1			5
Not specified	1				1
Total	1,088	216	30	34	1,368

NATIVITY AND RACE OF IMMIGRANTS CERTIFIED FOR TRACHOMA DURING YEAR ENDING JUNE 30, 1904.

Nativity.	Armenian.	Bohemian.	Croatian.	Dutch.	Finnish.	French.	German.	Greek.	Hebrew.	Irish.	Italian (south).	Italian (north).	Lithuanian.	Magyar.
Austria-Hungary		6	18				11		32			1		22
Belgium				1			2							
Denmark														
France						1	1							
Germany							13		1					
Greece								23						
Italy											159	26		
Norway														
Portugal														
Roumania									15					
Russia					18		27		65				74	
Spain														
Sweden														
Switzerland							1							
Turkey in Europe								1						
United Kingdom										8				
Turkey in Asia	16								7					
Other Asia														
West Indies														
South America														
Africa														
Total	16	6	18	1	18	1	55	24	120	8	159	27	74	22

NATIVITY AND RACE OF IMIGRANTS CERTIFIED FOR TRACHOMA DURING YEAR ENDING JUNE 30, 1904—Continued.

Nativity.	Polish.	Roumanian.	Russian.	Ruthenian.	Scandinavian.	Slovak.	Syrian.	Portuguese.	Spanish.	Turkish.	East Indian.	West Indian.	Peruvian.	Arabian.	Total.
Austria-Hungary	38	....	....	22	....	29	....	....	....	....	....	....	....	....	179
Belgium	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3
Denmark	....	....	....	....	2	....	....	....	....	....	....	....	....	....	2
France	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Germany	10	....	....	....	....	....	....	....	....	....	....	....	....	....	24
Greece	....	....	....	....	....	....	....	....	....	....	....	....	....	....	23
Italy	....	....	....	....	....	....	....	....	....	....	....	....	....	....	185
Norway	....	....	....	....	3	....	....	....	....	....	....	....	....	....	3
Portugal	....	....	....	....	....	....	....	1	....	....	....	....	....	....	1
Roumania	....	2	....	....	....	....	....	....	....	....	....	....	....	....	17
Russia	57	....	2	....	....	....	....	....	....	....	....	....	....	....	243
Spain	....	....	....	....	....	....	....	....	1	....	....	....	....	....	1
Sweden	....	....	....	....	9	....	....	....	....	....	....	....	....	....	9
Switzerland	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Turkey in Europe	....	....	....	....	....	....	....	....	....	3	....	....	....	....	4
United Kingdom	....	....	....	....	....	....	....	....	....	....	1	2	....	....	11
Turkey in Asia	....	....	....	....	....	....	36	....	....	....	....	....	....	....	59
Other Asia	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1
West Indies	....	....	....	....	....	....	....	....	....	....	....	2	....	....	2
South America	....	....	....	....	....	....	....	1	....	....	....	....	....	....	1
Africa	....	....	....	....	....	....	....	....	....	....	....	....	....	16	16
Total	105	2	2	22	14	29	36	2	1	3	1	4	1	16	787

NATIVITY AND SEX OF IMMIGRANTS ADMITTED TO HOSPITAL DURING THE FISCAL YEAR ENDING JUNE 30, 1904.

Nativity.	Men.	Women.	Children.		Total.
			Male.	Female.	
Austria-Hungary	552	327	143	146	1,158
Belgium	7	5	2	2	16
Denmark	15	15	11	8	49
France	21	16	8	11	56
Germany	119	63	35	39	256
Greece	84	3	5	2	94
Italy	857	287	170	161	1,475
Montenegro	6	....	....	....	6
Netherlands	12	3	4	4	23
Norway	32	17	7	3	59
Portugal	3	....	....	....	3
Roumania	39	20	12	13	84
Russia	502	333	238	204	1,277
Spain	10	2	1	....	13
Servia and Bulgaria	13	1	....	....	14
Sweden	28	17	8	8	61
Switzerland	16	6	3	5	30
Turkey in Europe	22	2	6	1	31
United Kingdom	103	58	15	19	195
Turkey in Asia	83	39	22	32	176
Other Asia	12	....	....	....	12
Africa	18	2	1	....	21
West Indies	10	6	4	4	24
Central America	1	2	1	10	14
South America	3	2	1	2	8
Total	2,568	1,226	697	664	5,155

RACE OF IMMIGRANTS DEPORTED WITHIN ONE YEAR AFTER LANDING.

Race.	Men.	Women.	Total.
Bohemian	2	3	5
Croatian	2	.....	2
English	7	3	10
Finnish	1	1	2
French	3	2	5
German	19	6	25
Greek	2	.....	2
Hebrew	16	2	18
Irish	4	1	5
Italian, south	30	5	35
Italian, north	1	.....	1
Magyar	7	1	8
Polish	4	2	6
Ruthenian	2	1	3
Scandinavian	2	2	4
Scotch	1	.....	1
Slovak	5	.....	5
Syrian	1	.....	1
West Indian	.....	1	1
Total	109	30	139

WORK OF THE MEDICAL EXAMINERS.

Steerage passengers inspected upon arrival		[a] 557,271
Cabin passengers inspected upon arrival		[b] 189,947
Sent to hospital upon arrival	4,733	
Sent to hospital after landing	422	
Total sent to hospital		5,155
Certified on account of loathsome or dangerous contagious diseases or other physical causes (steerage)		4,635
Recorded (minor defects)		17,062
Cabin passengers certified		167
Cabin passengers recorded (minor defects)		360
Landed cases:		
Remaining at beginning of year, pending final disposition		14
Applied for relief during the year		750
Total to account for		764
Disposition of landed cases:		
Certified for deportation but not placed in hospital		57
Examined and found to be no case for medical division		271
Relieved in hospital and discharged		314
Relieved in hospital, certified and discharged		108
Remaining at end of year, pending final disposition		14

CLERICAL WORK.

Permits and admission record cards sent to hospitals and filed in office upon admission of patients	10,310
Notices to steamship companies upon admission of patients	5,155
Notices to relatives or friends upon admission of patients	1,606
Certificates rendered in cases of immigrants:	
Upon arrival	4,802
After landing	157
Records made of minor defects of arriving immigrants	17,062
Receipts given patients for money and valuables held for safekeeping (in amount $68,227)	1,978
Daily reports of hospital transactions rendered to the commissioner of immigration and chiefs of divisions	1,460
Weekly reports of immigrants detained in hospital	52
Reports of immigrants placed in hospital from each ship	650
Reports of diseases and injuries occurring among immigrants during the voyage received and filed	899
Vouchers (amounting to $118,831.85) received, examined, and forwarded for payment	537
Checks received and forwarded	496
Letters and telegrams and notices received	1,006
Letters and telegrams sent	1,158

[a] Of this number 21,692 proved to be United States citizens.
[b] Of this number 91,715 proved to be United States citizens.

BALANCE SHEET.

To the health department for care and maintenance of immigrant patients	$25,656.00	By bills rendered steamship companies for care and maintenance and transportation of immigrant patients, and burial of deceased, for contract and immigrant hospitals	$68,542.80
To the Long Island College Hospital for care and maintenance of immigrant patients	15,019.50	By bills rendered individuals for care and maintenance of patients in immigrant hospital	455.60
To burials (contagious, $986; noncontagious, $616)	1,602.00	By expense of maintaining medical inspection service, including salaries of all officers, clerk, and attendants of the Public Health and Marine-Hospital Service on duty in connection with the medical inspection of immigrants	41,171.92
To transportation (contagious, $1,132.50; noncontagious, $1,205)	2,337.00	By articles of hospital furniture, surgical instruments, and miscellaneous articles of equipment purchased during the year and on hand	2,747.71
To salary of pharmacist, messengers, and attendants, United States Immigration Service, in immigrant hospital	11,010.42		
To salary of attendants, Public Health and Marine-Hospital Service, in immigrant hospital	1,419.47		
To subsistance supplies for immigrant hospital	12,889.97		
To miscellaneous supplies for immigrant hospital (drugs, furniture, clothing, etc.)	7,725.07		
To salary of officers, clerk, and attendants of the Public Health and Marine-Hospital Service on medical inspection duty	35,976.79		
To commutation for quarters of officers, Public Health and Marine-Hospital Service	4,080.31		
To car fares	64.82		
To extra meals	1,050.00	To balance	5,913.32
	118,831.35		118,831.35

NOTE.—Against the balance (deficit) there were 5,008 days' treatment in hospital furnished to landed immigrants (free cases).

DISPOSITION OF CASES CERTIFIED DURING FISCAL YEAR ENDING JUNE 30, 1904, INCLUDING CASES PENDING FROM PREVIOUS FISCAL YEAR.

Disease or condition.	Remaining.	Certified.	Total.	Deported.	Landed.	Remaining.
Trachoma	38	787	825	756	51	18
Tubercle of lung	.....	12	12	10	2	.....
Insanity	.....	24	24	22	1	1
Idiocy	.....	13	13	12	.....	1
Epilepsy	.....	5	5	3	1	1
Syphilis	.....	7	7	7	.....	.....
Favus	1	27	28	28	.....	.....
Weak-mindedness	.....	18	18	6	12	.....
Imbecile	.....	2	2	.....	2	.....
Aphasia	.....	1	1	.....	1	.....
Nervous weakness	.....	3	3	1	2	.....
Hysteria	.....	1	1	1	.....	.....
Hydrocephalus	.....	5	5	.....	5	.....
Acute alcoholism	.....	1	1	.....	1	.....
Gonorrhea	.....	3	3	3	.....	.....
Extensive chancroids	1	2	3	2	.....	1
Poor physique	4	146	150	58	91	1
Goitre	.....	19	19	1	18	.....
Valvular disease of heart	.....	140	140	60	78	2
Fatty heart	.....	1	1	.....	1	.....
Irregular action of heart	.....	6	6	3	3	.....
Disordered action of heart	.....	1	1	1	.....	.....
Hypertrophy of heart	.....	2	2	.....	1	1
Aneurism of subclavian artery	.....	1	1	1	.....	.....
Cardiac irregularity	.....	1	1	.....	1	.....
Debility	3	10	13	4	7	2
Senile debility	16	1,215	1,231	20	1,201	10
Asthma	.....	1	1	.....	1	.....
Chronic bronchitis	.....	3	3	.....	3	.....
Beginning paralysis	.....	3	3	1	2	.....
Paralysis	.....	3	3	2	1	.....
Paralysis of side	.....	2	2	1	1	.....
Partial paralysis	.....	3	3	.....	3	.....
Paralysis of arm	.....	14	14	1	13	.....
Paralysis of hand	.....	3	3	1	2	.....
Paralysis of shoulder	.....	2	2	.....	2	.....
Paralysis of leg	1	28	29	3	26	.....

DISPOSITION OF CASES CERTIFIED DURING FISCAL YEAR ENDING JUNE 30, 1904, INCLUDING CASES PENDING FROM PREVIOUS FISCAL YEAR—Continued.

Disease or condition.	Remaining.	Certified.	Total.	Deported.	Landed.	Remaining.
Paralysis of lower extremities	1	4	5	.....	5	.....
Hemiplegia	.....	7	7	.....	7	.....
Infantile paralysis	.....	19	19	.....	19	.....
Paraplegia	.....	5	5	.....	5	.....
Paralysis agitans	1	8	9	1	8	.....
Paraplegia, ataxic	.....	1	1	1	.....	.....
Facial paralysis	.....	1	1	.....	1	.....
Spastic paralysis	.....	1	1	.....	1	.....
Paraplegia, spastic	.....	1	1	.....	.....	1
Paralytic tremor	.....	1	1	1	.....	.....
Hydrocele	.....	7	7	2	4	1
Varicocele	1	2	3	2	1	.....
Degeneration of muscles	.....	1	1	1	.....	.....
Ulceration and chronic œdema of penis	.....	1	1	.....	1	.....
Abdominal tumor	.....	3	3	.....	3	.....
Tumor of the uterus	.....	1	1	.....	1	.....
Tubercle glands of neck	.....	6	6	1	5	.....
Tubercle of kneejoint	1	.....	1	.....	1	.....
Emphysema of lungs	.....	2	2	.....	2	.....
Suppuration of kneejoint	.....	1	1	.....	1	.....
Suppuration of lymph glands of neck	.....	4	4	1	3	.....
Perostitis, chronic	.....	1	1	.....	1	.....
Synovitis of knee	.....	1	1	.....	1	.....
Varicose veins of leg	.....	28	28	3	25	.....
Anæmia	.....	1	1	.....	1	.....
Ascites	.....	1	1	.....	1	.....
Bright's disease	.....	3	3	1	2	.....
Empyema	.....	1	1	.....	.....	1
Impediment of speech	.....	2	2	1	1	.....
Defective speech and hearing	.....	1	1	.....	1	.....
Deafness	.....	15	15	.....	15	.....
Dumb	.....	4	4	.....	4	.....
Deaf and dumb	.....	19	19	.....	19	.....
Physically undeveloped	.....	1	1	.....	1	.....
Rickets	.....	2	2	.....	2	.....
Kyphosis	.....	4	4	.....	4	.....
Anterior poliomyelitis	.....	1	1	1	.....	.....
Curvature of spine	2	125	127	9	118	.....
Spastic sclerosis	.....	1	1	.....	1	.....
Degeneration of spinal cord	.....	4	4	3	1	.....
Hip-joint disease	1	9	10	2	8	.....
Eczema	.....	3	3	.....	3	.....
Defective vision	1	61	62	11	50	1
Cataracts	1	39	40	4	36	.....
Chronic conjunctivitis	.....	21	21	6	15	.....
Blepharitis marginalis	.....	1	1	.....	1	.....
Keratitis	.....	3	3	.....	3	.....
Corneal opacity	.....	18	18	.....	18	.....
Blindness	.....	7	7	.....	7	.....
Injury to hand	.....	3	3	2	1	.....
Loss of ear	.....	1	1	.....	1	.....
Loss of arm	.....	11	11	2	9	.....
Loss of fingers	.....	13	13	4	9	.....
Loss of hand	.....	8	8	.....	8	.....
Loss of arm and leg	.....	1	1	.....	1	.....
Loss of foot	.....	3	3	.....	3	.....
Loss of leg	.....	37	37	2	34	1
Deformity of face	.....	4	4	1	3	.....
Deformity of arm	.....	8	8	2	6	.....
Deformity of fingers	.....	1	1	.....	1	.....
Deformity of both hands	.....	6	6	2	4	.....
Deformity of elbow	.....	2	2	1	1	.....
Deformity of spine	1	18	19	1	18	.....
Sprain of wrist	.....	1	1	.....	1	.....
Ankylosis of shoulder	.....	1	1	.....	1	.....
Ankylosis of elbow	.....	12	12	4	8	.....
Ankylosis of wrist	.....	1	1	.....	1	.....
Ankylosis of thigh	.....	1	1	.....	1	.....
Ankylosis of knee	2	34	36	3	33	.....
Ankylosis of hip	1	7	8	1	7	.....
Atrophy of arm	.....	3	3	2	1	.....
Atrophy of leg	.....	12	12	3	9	.....
Elephantiasis left leg	.....	1	1	1	.....	.....
Dislocation of elbow	.....	1	1	1	.....	.....
Dislocation of shoulder	.....	1	1	1	.....	.....
Dislocation of knee	.....	1	1	.....	1	.....
Dislocation of hip	.....	69	69	7	62	.....
Dislocation of both hip joints	....	7	7	.....	7	.....
Deformity of chest	.....	1	1	.....	1	.....
Deformity of back	.....	4	4	1	1	1

DISPOSITION OF CASES CERTIFIED DURING FISCAL YEAR ENDING JUNE 30, 1904, INCLUDING CASES PENDING FROM PREVIOUS FISCAL YEAR—Continued.

Disease or condition.	Remaining.	Certified.	Total.	Deported.	Landed.	Remaining.
Deformity of jaw		2	2		2	
Deformity of hand	1	49	50	12	38	
Deformity of hip		6	6		6	
Deformity of knee		6	6		6	
Deformity both legs		4	4		4	
Deformity and shortness of leg		27	27	5	22	
Deformity of leg		3	3		3	
Deformity of foot		15	15	1	14	
Deformity both feet		2	2		2	
Short leg		8	8		8	
Enlarged glands of neck		2	2		2	
Inflammation of ear		3	3		3	
Inflammation right tibia		1	1		1	
Inflammation gall bladder		1	1		1	
Inflammation glands of neck		24	24	3	20	1
Inflammation middle ear, chronic		2	2		2	
Chronic inflammation soft parts of nose		1	1		1	
Chronic inflammation of liver		3	3	2	1	
Chronic inflammation spinal chord		2	2	1	1	
Chronic inflammation glands of neck		2	2		2	
Inflammation tendon sheaths of arm		1	1		1	
Inflammation of hip joint		1	1	1		
Ozæna		3	3	1	2	
Chronic disease of spine		5	5	1	4	
Chronic disease bones of foot		1	1		1	
Chronic ulcers of legs		1	1		1	
Chronic malaria		5	5	1	3	1
Malarial cachexia		1	1	1		
Chronic suppuration glands of neck		1	1	1		
Old burn of hand and scalp		1	1		1	
Tumor of face		2	2		2	
Tumor of jaw		1	1		1	
Tumor of neck		2	2		2	
Lameness		43	43	5	37	1
Knock-knees		1	1		1	
Club foot	2	34	36	3	33	
Club feet		4	4		4	
Flat foot		2	2	1	1	
Pott's fracture ankle joint		1	1		1	
Pott's disease		3	3		3	
Fracture of femur		3	3		3	
Fracture of arm		1	1		1	
Fracture of patella		1	1		1	
Fracture of humerus		1	1		1	
Abscess tear duct		1	1		1	
Abscess hand and wrist		1	1			1
Abscess shoulder joint		1	1		1	
Abscess parotid glands		1	1		1	
Psoriasis		26	26	7	19	
Lupus		4	4		4	
Cancer of chin		1	1		1	
Ulcers of face (rodent)		1	1		1	
Polypi of nose		1	1		1	
Torticollis		2	2		2	
Injury to muscles of leg		1	1		1	
Chronic disease of bone of jaw		1	1		1	
Chronic disease of skin		3	3	2	1	
Chronic enlargement of tonsils		1	1		1	
Diabetes mellitus		1	1		1	
Chronic disease of liver		1	1		1	
Congestion of liver		1	1		1	
Enlarged spleen		1	1	1		
Cleft palate		15	15	1	14	
Rheumatism		5	5	1	4	
Arthritis deformans		3	3		3	
Piles	1	1	2	1	1	
Weak abdominal ring		1	1		1	
Hernia	33	1,201	1,234	216	997	21
Dwarf		3	3		3	
Marasmus		1	1		1	
Albinism		1	1		1	
Total	114	4,802	4,916	1,368	3,478	70

MEDICAL AND SURGICAL REPORT OF DISEASES AND INJURIES TREATED BY UNITED STATES IMMIGRATION SERVICE (MEDICAL DIVISION), PORT OF NEW YORK, N. Y., FISCAL YEAR ENDING JUNE 30, 1904.

	Remaining from previous year.	Admitted to hospital during year.	Total treated.	Recovered.	Improved.	Not improved.	Died.	Remaining at end of year.
Smallpox	2	9	11	10	.....	.....	1	.....
Cowpox	.....	2	2	1	1	.....	.....	.....
Chicken pox	3	23	26	23	.....	.....	.....	3
Measles	32	333	365	295	.....	.....	22	48
Scarlet fever	9	35	44	28	.....	.....	12	4
Influenza	.....	11	11	10	.....	.....	1	.....
Whooping cough	.....	3	3	2	1	.....	.....	.....
Mumps	.....	11	11	10	.....	.....	1	.....
Diphtheria	2	6	8	5	.....	.....	1	2
Cerebro-spinal fever	1	5	6	4	.....	.....	2	.....
Simple continued fever	1	12	13	13	.....	.....	.....	.....
Enteric fever	4	19	23	18	.....	.....	5	.....
Dysentery	.....	5	5	4	.....	.....	1	.....
Malarial fever, intermittent	.....	24	24	20	2	2	.....	.....
Malarial fever, remittent	.....	1	1	.....	1	.....	.....	.....
Erysipelas	2	39	41	38	.....	.....	1	2
Septicæmia	.....	1	1	.....	.....	.....	1	.....
Tubercle of lung	4	41	45	.....	.....	42	3	.....
Tubercle general, miliary	1	2	3	.....	.....	1	2	.....
Tubercle of knee joint	1	.....	1	.....	.....	1	.....	.....
Tubercle of ankle joint	.....	1	1	.....	.....	1	.....	.....
Syphilis, primary	.....	1	1	.....	1	.....	.....	.....
Syphilis, secondary	.....	21	21	.....	8	12	.....	1
Gonorrhœa	4	26	30	19	9	2	.....	.....
Gonorrhœa, chronic	.....	1	1	.....	1	.....	.....	.....
Acantha lectularia	.....	1	1	1	.....	.....	.....	.....
Hook worm	6	.....	6	2	4	.....	.....	.....
Bilharzia hæmatobia	.....	1	1	.....	.....	1	.....	.....
Ergot poison	.....	2	2	1	.....	.....	1	.....
Alcoholism	.....	1	1	1	.....	.....	.....	.....
Delirium tremens	.....	1	1	.....	.....	.....	1	.....
Rheumatic fever	.....	23	23	16	4	.....	.....	3
Rheumatism	2	33	35	17	11	7	.....	.....
Chalazion	.....	1	1	.....	1	.....	.....	.....
Chalazion, multiple	.....	1	1	1	.....	.....	.....	.....
Abdominal tumor	.....	1	1	.....	.....	1	.....	.....
Papilloma	.....	1	1	1	.....	.....	.....	.....
Epithelioma of tongue	.....	1	1	.....	.....	1	.....	.....
Carcinoma of rectum	.....	1	1	.....	.....	1	.....	.....
Anæmia	.....	8	8	.....	4	4	.....	.....
Chlorosis	.....	2	2	.....	2	.....	.....	.....
Diabetes mellitus	.....	1	1	.....	.....	1	.....	.....
Premature birth	.....	1	1	.....	.....	.....	1	.....
Debility	3	53	56	13	23	18	.....	2
Old age	2	3	5	.....	.....	5	.....	.....
Neuritis, left leg	.....	1	1	.....	1	.....	.....	.....
Neuritis, multiple	.....	1	1	.....	.....	1	.....	.....
Degeneration, median nerve	.....	1	1	.....	.....	1	.....	.....
Inflammation of spinal cord	.....	3	3	.....	.....	3	.....	.....
Degeneration of spinal cord	.....	9	9	.....	.....	9	.....	.....
Ataxic paraplegia	.....	1	1	.....	.....	1	.....	.....
Inflammation of membranes, brain	1	6	7	4	.....	.....	2	1
Paralysis of ulnar nerve	.....	1	1	.....	.....	1	.....	.....
Paraplegia	.....	3	3	.....	.....	3	.....	.....
Hemiplegia	.....	3	3	.....	.....	3	.....	.....
Paralysis agitans	.....	2	2	.....	.....	2	.....	.....
Epilepsy	.....	6	6	.....	.....	6	.....	.....
Vertigo	.....	1	1	1	.....	.....	.....	.....
Neuralgia, intercostal	.....	1	1	1	.....	.....	.....	.....
Neuralgia, facial	.....	3	3	2	1	.....	.....	.....
Hysteria	.....	1	1	.....	1	.....	.....	.....
Aphasia	.....	1	1	.....	.....	1	.....	.....
Nervous weakness	.....	10	10	.....	6	4	.....	.....
Mental weakness	.....	5	5	.....	.....	5	.....	.....
Idiocy	.....	4	4	.....	.....	4	.....	.....
Imbecility	.....	2	2	.....	.....	2	.....	.....
Mania	.....	2	2	.....	.....	2	.....	.....
Melancholia	.....	5	5	.....	1	4	.....	.....
Dementia	.....	2	2	.....	.....	2	.....	.....
Dementia, senile	.....	1	1	.....	.....	.....	.....	1
Mental stupor	1	.....	1	1	.....	.....	.....	.....

MEDICAL AND SURGICAL REPORT OF DISEASES AND INJURIES TREATED BY UNITED STATES IMMIGRATION SERVICE, ETC.—Continued.

	Remaining from previous year.	Admitted to hospital during year.	Total treated.	Recovered.	Improved.	Not improved.	Died.	Remaining at end of year.
Conjunctivitis:								
Acute	45	745	790	773	15			2
Chronic	25	439	464	2	442	18		2
Purulent	5	160	165	143	20			2
Phlyctenular		5	5	3	2			
Follicular	18	101	119	58	60	1		
Granular	116	738	854	22		812		20
Keratitis		7	7		4	3		
Ulcer of cornea	2	12	14	9	4			1
Opacity cornea		1	1			1		
Scleritis		1	1		1			
Iritis		2	2	1				1
Degeneration of optic nerve		2	2			2		
Abscess, lachrymal sac		2	2	1		1		
Blepharitis marginalis		21	21	2	19			
Stye		9	9	8	1			
Inflammation of middle ear		6	6	3	2	1		
Chronic		3	3			3		
Suppurative		16	16	4	9			3
Inflammation of soft parts of nose		4	4	2		2		
Inflammation of frontal sinuses, suppurative		1	1				1	
Pericarditis, chronic		1	1			1		
Endocarditis		1	1	1				
Valvular disease of heart, mitral	2	16	16		3	13	1	1
Degeneration of heart, fibrous		1	1				1	
Hypertrophy of heart		1	1			1		
Syncope		1	1	1				
Disordered action of heart		4	4		3	1		
Degeneration of arteries		1	1		1			
Phlebitis		2	2	1		1		
Varix		2	2			2		
Inflammation of larynx		5	5	4	1			
Inflammation of larynx, chronic		1	1		1			
Bronchitis:								
Acute	1	44	45	42	3			
Chronic		20	20		12	8		
Pulmonary apoplexy		1	1		1			
Pneumonia:								
Lobular		1	1	1				
Lobar	6	90	96	84			11	1
Broncho-pneumonia	1	26	27	12			13	2
Emphysema		1	1			1		
Pleurisy:								
Acute	2	13	15	13				2
Chronic	1	3	4		3	1		
With effusion		1	1	1				
Empyema	1	4	5	1			1	3
Inflammation of mouth		3	3	3				
Ulceration of mouth		3	3	2				1
Inflammation of dental periosteum		9	9	6	3			
Abscess of dental periosteum		4	4	2	2			
Inflammation of tongue		1	1	1				
Sore throat		4	4	4				
Sore throat, chronic		1	1			1		
Inflammation of tonsils:								
Acute		3	3	3				
Chronic		1	1		1			
Follicular	1	27	28	26	2			
Suppurative		2	2	1			1	
Inflammation of glands, parotid	1	1	2	2				
Abscess of glands, parotid		2	2	1		1		
Inflammation of pharynx, acute		1	1		1			
Ulceration of pharynx and larynx, chronic		1	1		1			
Inflammation of stomach:								
Acute	1	17	18	18				
Chronic		1	1			1		
Ulceration of stomach, perforated		1	1				1	
Indigestion		2	2	2				
Effects of seasickness		2	2	2				
Inflammation of intestines:								
Acute	1	40	41	27	2	1	10	1
Chronic	1	1	2		1	1		
Colitis		1	1		1			
Enteritis		1	1	1				

MEDICAL AND SURGICAL REPORT OF DISEASES AND INJURIES TREATED BY UNITED STATES IMMIGRATION SERVICE, ETC.—Continued.

	Remaining from previous year.	Admitted to hospital during year.	Total treated.	Recovered.	Improved.	Not improved.	Died.	Remaining at end of year.
Typhlitis	.....	3	3	2	.....	.....	.....	1
Inflammation of intestines, catarrhal	.....	1	1	1	.....	.....	.....	.....
Fæcal accumulation	.....	1	1	1	.....	.....	.....	.....
Hernia:								
Umbilical	.....	1	1	.....	.....	1	.....	.....
Inguinal	.....	2	2	.....	.....	2	.....	.....
Constipation	.....	69	69	67	1	.....	.....	1
Colic	.....	3	3	3	.....	.....	.....	.....
Diarrhea	.....	9	9	9	.....	.....	.....	.....
Ulceration of rectum	.....	1	1	.....	.....	1	.....	.....
Piles:								
Internal	.....	3	3	.....	1	2	.....	.....
External	.....	1	1	.....	.....	1	.....	.....
Inflammation of liver:								
Acute	.....	1	1	.....	.....	.....	1	.....
Chronic	.....	7	7	.....	1	6	.....	.....
Congestion of liver	.....	1	1	.....	.....	1	.....	.....
Jaundice	.....	1	1	.....	1	.....	.....	.....
Inflammation of hepatic duct, catarrhal	.....	20	20	12	8	.....	.....	.....
Inflammation of peritoneum pelvic, chronic	.....	.....	1	1	.....	1	.....	.....
Inflammation of lymph glands of neck	.....	10	10	2	7	1	.....	.....
Chronic	1	7	8	1	2	5	.....	.....
Suppurative	1	2	3	1	1	1	.....	.....
Suppuration of lymph glands of axilla	.....	1	1	1	.....	.....	.....	.....
Suppuration of lymph glands of thigh	.....	1	1	.....	1	.....	.....	.....
Inflammation of lymph glands of groin	.....	1	1	.....	.....	.....	.....	1
Suppuration of lymph glands of groin	.....	9	9	6	3	.....	.....	.....
Inflammation of lymphatics, leg	.....	1	1	1	.....	.....	.....	.....
Elephantiasis	.....	1	1	.....	.....	1	.....	.....
Acute nephritis	.....	1	1	.....	.....	.....	1	.....
Brights disease	.....	7	7	.....	.....	7	.....	.....
Calculus, left ureter	.....	1	1	1	.....	.....	.....	.....
Inflammation of bladder:								
Acute	.....	4	4	2	1	1	.....	.....
Chronic	.....	1	1	.....	.....	.....	.....	1
Inflammation of gall bladder, chronic	.....	1	1	.....	1	.....	.....	.....
Retention of urine	.....	1	1	1	.....	.....	.....	.....
Urethritis	.....	8	8	8	.....	.....	.....	.....
Posthitis	.....	1	1	1	.....	.....	.....	.....
Phimosis	.....	1	1	.....	1	.....	.....	.....
Paraphimosis	.....	1	1	1	.....	.....	.....	.....
Inflammation of glands of penis	.....	1	1	1	.....	.....	.....	.....
Ulcer of penis	1	11	12	10	2	.....	.....	.....
Soft chancre of penis	.....	8	8	3	2	.....	.....	3
Hydrocele	.....	3	3	1	1	1	.....	.....
Inflammation of testicles	.....	1	1	1	.....	.....	.....	.....
Epididymitis	.....	1	1	.....	.....	.....	.....	1
Inflammation of uterus	.....	1	1	1	.....	.....	.....	.....
Menorrhagia	.....	1	1	1	.....	.....	.....	.....
Pregnancy	.....	19	19	3	.....	15	.....	1
Abortion	.....	10	10	10	.....	.....	.....	.....
Threatened abortion	.....	1	1	1	.....	.....	.....	.....
Effects of childbirth	1	28	29	29	.....	.....	.....	.....
Inflammation of shaft femur	.....	1	1	.....	.....	1	.....	.....
Osteo myelitis, chronic	.....	4	4	.....	.....	4	.....	.....
Abscess os calcis, chronic	.....	1	1	.....	1	.....	.....	.....
Inflammation of ankle joint	.....	1	1	1	.....	.....	.....	.....
Inflammation of kneejoint	1	.....	1	1	.....	.....	.....	.....
Suppuration of kneejoint	.....	1	1	.....	.....	1	.....	.....
Synovitis, acute	.....	3	3	2	.....	.....	.....	1
Suppuration of shoulder joint	.....	1	1	.....	.....	1	.....	.....
Suppuration of elbow joint	.....	1	1	.....	.....	1	.....	.....
Ankylosis of right hip	.....	1	1	.....	.....	1	.....	.....
Curvature of spine	.....	1	1	.....	.....	1	.....	.....
Degeneration of muscles	.....	1	1	.....	.....	1	.....	.....
Atrophy of muscles of right arm	.....	1	1	.....	.....	1	.....	.....
Myalgia	.....	10	10	10	.....	.....	.....	.....
Inflammation of sheaths of tendons	.....	1	1	.....	1	.....	.....	.....
Inflammation of connective tissues of—								
Face	.....	3	3	2	1	.....	.....	.....
Eyelid	.....	4	4	4	.....	.....	.....	.....
Lip	.....	1	1	1	.....	.....	.....	.....
Arm	.....	2	2	2	.....	.....	.....	.....
Hand	.....	2	2	1	.....	.....	.....	1

MEDICAL AND SURGICAL REPORT OF DISEASES AND INJURIES TREATED BY UNITED STATES IMMIGRATION SERVICE, ETC.—Continued.

	Remaining from previous year.	Admitted to hospital during year.	Total treated.	Recovered.	Improved.	Not improved.	Died.	Remaining at end of year.
Inflammation of connective tissues of—Cont'd.								
Fingers	.....	3	3	1	1	.....	.....	1
Thumb	.....	2	2	1	1	.....	.....	.....
Leg	2	2	4	4	.....	.....	.....	.....
Knee	1	.....	1	.....	1	.....	.....	.....
Feet	.....	1	1	1	.....	.....	.....	.....
Abscess of connective tissues of—								
Scalp	1	1	2	2	.....	.....	.....	.....
Face	.....	5	5	4	1	.....	.....	.....
Peritoneum	.....	1	1	1	.....	.....	.....	.....
Jaw	1	1	2	1	1	.....	.....	.....
Lip	.....	2	2	1	1	.....	.....	.....
Neck	.....	7	7	2	4	.....	1	.....
Chest	.....	1	1	1	.....	.....	.....	.....
Thigh	.....	2	2	2	.....	.....	.....	.....
Buttock	.....	1	1	1	.....	.....	.....	.....
Axilla	.....	2	2	2	.....	.....	.....	.....
Arm	.....	2	2	.....	2	.....	.....	.....
Hand	1	13	14	11	2	.....	.....	1
Finger	.....	4	4	2	2	.....	.....	.....
Thumb	.....	3	3	2	1	.....	.....	.....
Leg	.....	2	2	1	.....	.....	.....	1
Knee	.....	1	1	1	.....	.....	.....	.....
Foot	.....	5	5	4	1	.....	.....	.....
Abscess of connective tissues, peri-nephritic	.....	1	1	.....	1	.....	.....	.....
Oedema of prepuce	.....	1	1	.....	1	.....	.....	.....
Oedema of lower extremities	.....	2	2	2	.....	.....	.....	.....
Erythema nodosuma	.....	1	1	1	.....	.....	.....	.....
Pityriasis rosea	.....	1	1	.....	1	.....	.....	.....
Urticaria	.....	1	1	.....	1	.....	.....	.....
Eczema	3	75	78	18	53	5	.....	2
Impetigo	.....	3	3	1	2	.....	.....	.....
Pityriasis rubra	.....	1	1	1	.....	.....	.....	.....
Lichen planus	.....	1	1	1	.....	.....	.....	.....
Psoriasis	1	4	5	.....	2	3	.....	.....
Herpes facialis	.....	1	1	1	.....	.....	.....	.....
Zona	.....	3	3	2	1	.....	.....	.....
Pemphigus	.....	2	2	1	1	.....	.....	.....
Acne	.....	1	1	.....	1	.....	.....	.....
Sycosis	2	4	6	4	2	.....	.....	.....
Seborrhoea capitas	.....	5	5	1	4	.....	.....	.....
Frostbite	.....	1	1	1	.....	.....	.....	.....
Ulcer skin of—								
Lip	1	.....	1	1	.....	.....	.....	.....
Leg	.....	5	5	2	2	.....	.....	1
Boils	.....	16	16	9	7	.....	.....	.....
Of face	.....	19	19	9	10	.....	.....	.....
Of abdomen	.....	1	1	.....	1	.....	.....	.....
Of finger	.....	1	1	.....	1	.....	.....	.....
Of buttock	.....	1	1	1	.....	.....	.....	.....
Of forearm	.....	1	1	1	.....	.....	.....	.....
Carbuncle	.....	3	3	.....	2	.....	.....	1
Whitlow	.....	3	3	1	2	.....	.....	.....
Lupus erythematosus	.....	2	2	.....	.....	2	.....	.....
Scabies	3	19	22	20	2	.....	.....	.....
Favus	4	26	30	.....	.....	30	.....	.....
Ringworm	.....	1	1	1	.....	.....	.....	.....
Burn of—								
Leg and hand	.....	1	1	1	.....	.....	.....	.....
Leg	.....	4	4	2	2	.....	.....	.....
Hand	.....	4	4	.....	4	.....	.....	.....
Head and body	.....	1	1	.....	1	.....	.....	.....
Skin of neck	.....	2	2	1	1	.....	.....	.....
Foot	.....	2	2	2	.....	.....	.....	.....
Heat stroke	.....	1	1	1	.....	.....	.....	.....
Scald of foot and leg	.....	1	1	.....	1	.....	.....	.....
Rupture of muscles	.....	1	1	.....	.....	1	.....	.....
Wound of scalp:								
Incised	.....	1	1	.....	.....	1	.....	.....
Contused	.....	8	8	4	3	1	.....	.....
Lacerated	.....	1	1	1	.....	.....	.....	.....
Contusion of—								
Skull	.....	1	1	1	.....	.....	.....	.....
Face	.....	1	1	1	.....	.....	.....	.....

MEDICAL AND SURGICAL REPORT OF DISEASES AND INJURIES TREATED BY UNITED STATES IMMIGRATION SERVICE, ETC.—Continued.

	Remaining from previous year.	Admitted to hospital during year.	Total treated.	Recovered.	Improved.	Not improved.	Died.	Remaining at end of year.
Contusion of—Continued.								
Neck		1	1	1				
Chest	1		1	1				
Contusion of shoulder		1	1	1				
Wound of—								
Abdomen, lacerated		1	1		1			
Peritoneum		1	1		1			
Scrotum, incised		1	1	1				
Contusion of—								
Hand		2	2		2			
Finger		1	1	1				
Sprain of wrist		2	2	1	1			
Wound of—								
Hand, incised		2	2	1		1		
Hand, contused		1	1	1				
Finger, lacerated		2	2	2				
Thumb, contused		1	1		1			
Thumb, lacerated		2	2	2				
Fracture of—								
Clavicle		2	2	2				
Humerus		1	1		1			
Ulna	1		1		1			
Arms, both bones		1	1		1			
Radius		4	4	2	1			1
Radii, both arms		1	1		1			
Fourth finger		1	1		1			
Contusion of—								
Leg		2	2	1	1			
Knee		2	2	1	1			
Ankle		2	2	2				
Feet		4	4	3	1			
Sprain of ankle	2	5	7	4	2			1
Wound of knee, lacerated	1		1	1				
Fracture of—								
Femur		5	5	1		3		1
Tibia		1	1					1
Metacarpus		1	1		1			
Accompanying	47	704	751	726				25
Infancy		30	30	1		28		1
Observation	48	278	326	325				1
Total	436	5,155	5,591	3,280	887	1,165	101	158

GEO. W. STONER,
Surgeon, Public Health and Marine-Hospital Service, in Charge.

APPEALS TO THE DEPARTMENT.

Below is given a tabulated statement of the number and final disposal of appeals taken from the boards of special inquiry to the Department. As will be seen, these appeals were all, virtually, from aliens who have been denied admission, although the law permits appeals from dissenting members of the board in cases where a contrary conclusion has been reached.

Port.	Appeals sustained.	Appeals dismissed.	Appeals withdrawn.	Total.
New York	362	330	.....	692
Boston	95	209	.....	304
Philadelphia	5	37	.....	42
Baltimore	33	35	.....	68
San Francisco	.....	2	.....	2
Montreal	9	35	a 1	45
Seattle	10	4	.....	14
Portland, Oreg	2	3	.....	5
El Paso	.....	4	.....	4
Eagle Pass	.....	1	.....	1
Mobile	1	.....	.....	1
Total	517	660	1	1,178

a Death.

As is shown elsewhere herein, treating of the subject of appeals from the decisions of officers at the ports in Chinese cases, the Bureau has regretfully to refer to the misuse of our courts to prevent the execution of the administrative mandates.

Although the constitutionality of the acts of Congress conferring exclusive authority upon the executive branch of the Government to determine the admissibility of any alien has been repeatedly affirmed by the United States Supreme Court, every pretext conceivable to the fertile ingenuity of attorneys has been resorted to as a means of destroying that executive authority. Confronted on the one hand by the right of applying aliens to a speedy determination of their cases and the unimportant but noisy charges of the lesser attorneys that the continued detention of the aliens amounts to a violation of law, and on the other hand by the also unimportant but none the less vociferous charges of the same grade of attorneys that their clients were deported without being allowed time to present their evidence, a rule was adopted requiring a notice of appeal from the adverse decision of boards of special inquiry to be taken promptly, and the appeal itself with accompanying evidence to be forwarded within thirty-six hours thereafter to the Department. To make this rule sufficiently elastic to cover exceptional cases requiring from their nature more time, sufficient additional time is permissible by the chief officer at the port, but no appeal is to be allowed after an alien has been removed from the station for deportation upon a final judgment either of a board or of the Department. Of late resort has been had to writs of habeas corpus in the case of aliens whose cases have been pending for weeks and who have finally, after appeal to the Department, been ordered to be deported. The claim is made in such instances, notwithstanding the long inaction, that the case should be reheard on alleged new evidence, and that therefore execution of the order should be stayed. In other words, that promptness of action which the law intended by commit-

ting exclusive jurisdiction to determine the admissibility of aliens to executive officers is defeated by those dilatory and specious tactics, at times resorted to in the courts, which in the popular mind have done so much to destroy faith in the judicial administration of justice.

The writ in such cases has been granted, apparently without hesitation, upon the ground that the regulations as applied constituted a denial of "due process of law." Thus occurs another instance in which an alien who has never effected a lawful landing on our shores successfully invokes the judicial authority of the United States to prevent the execution of a mandate made in strict conformity with law by another branch of the Government, not to deprive him of any vested legal right, but to prevent him from forcing an entrance to a country which, as the case stands when presented to the courts, has excluded him. The other instance referred to will be found in that part of this report which treats of Chinese appeals.

Under these circumstances it is recommended that Congress enact appropriate legislation on the subject of appeals that will, if such a policy is to be successfully maintained, prevent delays and consequent embarrassments in dealing promptly with arriving aliens, as well as preserve the authority of executive decisions which is endangered by resort to the courts in the manner described.

A statement follows from which may be seen the instances at the Ellis Island port in which judicial intervention has been sought and obtained to prevent the execution of the mandates of the Department despite the provisions of the act of August 18, 1894, which excludes the courts from jurisdiction to pass upon the admissibility of aliens.

LIST OF HABEAS CORPUS PROCEEDINGS AGAINST THE COMMISSIONER OF IMMIGRATION AT THE PORT OF NEW YORK FOR THE YEAR ENDING JUNE 30, 1904.

JULY, 1903.

Malichewska, Anna and Karel. Case in United States circuit court. Anna ordered deported as liable to become a public charge, and Karel as afflicted with a dangerous contagious disease. Writ dismissed.

Janelli, Domenico. Case in United States circuit court. Alien rejected as likely to become a public charge. Proceeding was discontinued on consent.

Charalambis, Lontos. Case in United States circuit court. Alien a Greek currant expert and expert accountant, rejected as a contract laborer. Although this proceeding was commenced prior to June 30, 1903, the order was entered July 13, 1904, dismissing the writ and paroling the alien in custody of his counsel pending an appeal taken by the alien to the United States Supreme Court. In this proceeding was litigated the question whether contract laborers are excluded under the immigration act of March 3, 1903, and whether an expert accountant belongs to a recognized learned profession within the meaning of section 2 of said act, and also various questions in connection with the treaty with Greece under which this alien claimed the right to enter the United States. The opinion of the court is published in 124 Fed. Rep., 637. From the order dismissing the writ the alien appealed to the United States Supreme Court. The record has been printed and the argument of the appeal set down for the October term.

Ellis, Thomas. An expert accountant. The case was argued with the Charalambis case, involved practically the same questions and was disposed of in the same manner—i. e., the writ was dismissed and alien paroled in the custody of his counsel pending the decision of the appeal now before the Supreme Court. The opinion of the circuit court is published in 124 Fed. Rep., 637.

AUGUST, 1903.

Lewin, Chaje, and her four minor children. Case in United States district court before Judge Holt. Aliens excluded as liable to become public charges. Question litigated was the constitutionality of section 25 of act of March 3, 1903, making

decisions of the board final. The writ was dismissed and aliens remanded to the custody of commissioner of immigration.

Micalone, Pasqua, and Fondecchia, Carmine. Case in United States district court. Micalone rejected because of trachoma and Fondecchia as likely to become a public charge. Before argument both were admitted by board as citizens, the husband and father having presented citizenship papers. Proceeding discontinued.

SEPTEMBER, 1903.

Salamone, Guiseppe. Case in United States circuit court, eastern district of New York. Alien rejected because of trachoma. Before argument alien married a citizen by civil contract executed before a notary public. Writ sustained and alien discharged.

OCTOBER, 1903.

Reff, Mile. Case in United States district court. Alien rejected because of trachoma. Question litigated was whether the fact that her husband having declared his intention of becoming a citizen and having taken out his first papers entitled him to bring his wife into the United States. The writ dismissed and alien remanded to the custody of commissioner.

Zajkowska, Catharine. Case in United States district court. Alien rejected because of trachoma. Relator's attorney consented to dismissal of writ.

Rizzo, Girolamo. Case in United States circuit court. Alien excluded as likely to become a public charge. Writ dismissed and alien remanded to custody of commissioner.

Turner, John. Case in United States circuit court. Question litigated was the constitutionality of section 2 of the act of March 3, 1903, excluding anarchists from admission into the United States. Alien expelled under warrant of Secretary as an anarchist. Writ dismissed and alien remanded to custody of commissioner. Opinion of circuit court reported in 126 Fed. Rep., 253. Subsequently affirmed by United States Supreme Court.

Zarcone, Vincenza and Giuovanna. Case in United States circuit court. Giuovanna rejected because of trachoma and Vincenza deported as an accompanying alien whose protection was required by said Giuovanna. In May, 1903, a writ of habeas corpus in relation to these aliens was dismissed and the aliens remanded to the custody of commissioner. The aliens then appealed to the United States Supreme Court, and pending the hearing of the appeal that alien afflicted with trachoma was cured, and their father thereupon took out a second writ of habeas corpus. This second writ was sustained and the aliens discharged. Under instructions an appeal was taken by the commissioner, but for good reasons both appeals were subsequently abandoned.

NOVEMBER, 1903.

Boyajian, Ohannes and Misak. Case in United States circuit court. Alien's arrested under Secretary's warrant on the ground that they were found in the United States in violation of law in that they entered surreptitiously and at the time were afflicted with trachoma. Writ dismissed and aliens remanded to custody of commissioner.

JANUARY, 1904.

Russomanno, Raffaele. Case in United States circuit court. Alien arrrested under Secretary's warrant upon the ground that he came into the United States contrary to the prohibition of the immigration act of March 3, 1891. The alien, as appears by the warrant, arrived December 2, 1902. Because his deportation was sought under the said act of 1891, and the year after arrival having expired, the writ was sustained and the alien discharged. Opinion reported in 128 Fed. Rep., 528.

MAY, 1904.

Cacioppo, Gaspare. Case in United States circuit court. Alien rejected because of trachoma. Writ dismissed and alien remanded to the custody of commissioner. In this case the alien appealed from the decision of the board of special inquiry to the Secretary, but his appeal was not entertained. The decision sustained the provision of section 10 of the act of March 3, 1903, that the action of the board based on the certificate of the examining surgeon is final as to the rejection of any alien afflicted with a dangerous contagious disease.

Di Stefano, Angela, Di Giuseppe, Rachele, and Barbatto, Maria Carmela. Case in United States circuit court. Angela and Rachele rejected because of trachoma and Maria as liable to become a public charge. In this case (the husband of Rachele having taken out his first citizenship papers claimed under section 37 of the act of March 3, 1903) it was found necessary that she should be detained until it had been determined whether the disorder would be easily curable. The writ was dismissed and the aliens remanded, Judge Lacombe holding that the official surgeon had not certified that the disease was contracted on shipboard and that such a certificate was necessary to bring the case within the provisions of section 37. This was the first decision obtained here on this question.

Pearson, Peter, Pearson, Enoch, and Wakefield, John. Case in United States circuit court. Aliens arrested under Secretary's warrant as contract laborers. Question litigated was whether the unanimous decision of the board of special inquiry admitting these aliens was final and conclusive upon their right to land. Court held that the decision of the board was conclusive admitting these aliens upon their entry in the United States. Writ sustained. Appeal taken to the United States circuit court of appeals and aliens released under bonds. This appeal has been placed in the hands of the United States district attorney and will probably be argued in October.

Cariale, Cosimo. Case in United States district court. Alien rejected as liable to become a public charge. Question litigated was the constitutionality of law making the board's decision final and whether court could order rehearing. Court held that rehearing is in the discretion of the board. Writ dismissed and alien remanded.

Zito, Felice. Case in United States circuit court. Alien rejected as a contract laborer. Writ dismissed and alien remanded to custody of commissioner.

INVESTIGATIONS IN FOREIGN COUNTRIES.

Under the terms of the proviso to section 22 of the last immigration act, approved March 3, 1903, certain investigations have been made in foreign countries bearing on the conditions which attend the migration of aliens to the United States. A report of one such investigation by Inspector Marcus Braun was given last year in full. Quotations are included herein, in preceding pages, from a similar report by the same officer. In addition to the investigations conducted by Mr. Braun, another officer of the Bureau has been occupied in Europe during the year under consideration, and is still engaged upon work of a similar nature. As indicating the scope of this work the accompanying preliminary report by the last-mentioned officer is given:

LONDON, ENGLAND, *June 30, 1904.*

SIR: Pursuant to your request, I have the honor to submit herewith a brief preliminary report upon work accomplished and now in hand for the Bureau. Details of many matters herein referred to have been fully covered in numerous letters, in the course of which reports have also been made upon specific matters referred to me for investigation, but which possessed value for this report only as they confirm statements herein made. As these previous letters and reports are on file in your office, I have not encumbered this communication with them, it being my intention in writing the same to confine it to the most important features of the emigrant service abroad. Owing to the fact that the investigation of these matters is far from complete, it is impossible to do more at this time, in discussing some of the points involved, than to indicate what promise to be the results.

It has been predicted that there would soon come a decrease in the volume of immigration into the United States through exhaustion of supply. I venture to say that there is absolutely no foundation for such a belief, or any hope of such a turn of affairs for many years to come. Two influences are responsible for fluctuations in the movement—one of these is the condition of business in the United States, meaning the degree of opportunity offered for employment—and the other the existence of a more or less temporary condition of affairs responsible for an unusual exodus from one or more localities in Europe. To illustrate this, the demand for labor upon the subway in New York City was responsible for an unusually large movement of

Italians to that point during the fiscal year of 1902–3. A climax in the political and economic disturbances in the Jewish Pale in Russia was responsible for the unusual exodus from that quarter during the same year. To illustrate further, it is known that emigrants returning from the United States are bringing back word that this is not a particularly good year to go to the United States, but that next year will be very much better. The result of this influence has been to cause a number of the more intelligent Europeans contemplating emigration to postpone their departure.

Barring such fluctuation as may be caused by influences similar to those cited above, no other reason exists to cause a decrease in the movement other than might be brought about by the people of the United States in raising the standard of admission and extending the application of the prohibited classifications even beyond the point to which they are now in force. It is unnecessary for me to call attention here to the marked change for the worse which has taken place in the character of the emigration to the United States during the past few years, for no one is better informed in this matter than yourself. The change is due to the increased facilities afforded by the transportation companies, and the fact that the supply of emigrants is now drawn from a section of Europe where the emigrating classes are inferior to those sections from which the bulk of the movement came heretofore. The percentage of deficients and undesirables who attempt the journey is greater now than ever before, and the average emigrant of to-day is sadly lacking in that courage, intelligence, and initiative which characterized the European people who settled in the Western States in the eighties. Unless the position be taken that all immigration of aliens to the United States is undesirable, it must not be understood that all of those now crossing the Atlantic are objectionable. Far from this being the case, it is safe to say that a majority of the aliens even now seeking a home in America are worthy, industrious, and law-abiding people, fully competent after a few years' residence in the United States to take their part in the civil life of the country and perform the duties of citizenship intelligently. So long as the United States maintains an open door for this class of people, a large number of those now entering could not be improved upon. Many of them are relatives by marriage or kin of those who have preceded them, and undertake the long and arduous journey with the laudable ambition of creating a permanent home in the new land.

Unfortunately, however, a large percentage of undesirables necessarily are mingled with the desirables, and the difficulties of discriminating between the two classes appear at times almost insuperable. Two grave dangers threaten the people of the United States from the present emigration movement. The first of these, and the one more immediate in its possible effects, is the danger of diseases such as are common to the masses of the people in many European countries, but which are as yet comparatively unknown in the United States. Of this I will speak more at length in another paragraph. The second grave danger referred to is the dumping by European countries of their paupers and dependents upon the American people. That this danger is tangible is shown in the fact that a majority of the deportations are for the reason that the persons involved are likely to become public charges. The annual reports of the Bureau showing the amount of money possessed by each immigrant when he lands demonstrate the fact that a very small percentage have sufficient means on their arrival to guarantee self-support until able to create an income. Whether possessed of resources in the shape of relatives and friends or not, it is evident that the ignorant foreigner must possess unusual energy and persistence or else be blessed with unusual good fortune to avoid a condition immediately subsequent to his arrival where he is likely to need public or private charity. But for the prompt action of the Bureau in deporting a number of persons whose passages to the United States were paid by charitably inclined people, relief organizations, or even by official bodies having charge of the poor, there would have been a general movement throughout Europe to ship all native paupers to the United States as the easiest way in which to relieve the communities on which they now constitute a burden. Such a movement actually obtained some headway in England with the opening of the recent rate war between the Atlantic steamship lines, and during the interval between the first sale of tickets at reduced rates and the action of the American authorities in deporting such assisted persons.

As to the ultimate effect of the rate war among the transportation interests doing the trans-Atlantic business, it is impossible to say at this time, owing to the fact that the war is still in progress. Such a cheapening of rates undoubtedly has a vicious effect upon the character of the emigrant movement. Among the poorer classes of Europe, what would seem an exceedingly small sum of money to an American is comparatively a fortune, for in some localities a day laborer supporting himself and family could not lay by enough in a lifetime to pay the regular steamship rate from a European port to New York. In direct proportion as the rate is reduced, the

number of people is increased who can buy tickets. As the rate war has been confined to English ports, the effect has been most noticeable in that country. Such cut-rate passengers as have been shipped from French ports have been sent from English competitive territory to be taken on board at the continental ports of embarkation. The rate war has resulted in a large increase in emigration, ostensibly British in character. A large part of this consists of aliens who have previously come from Europe to England and have been waiting the opportunity to depart for the United States, or who have been inspired to make the journey owing to the fact that the rates brought the undertaking within their power. The full steerage rates have been maintained up to the present time from the German ports, hence the vast movement from central and northern Europe which seeks an outlet there has not been given any stimulus by decreased fares. But for the fact that the German emigration laws prohibit indirect emigration, a large number of trans-German passengers would have gone to England to take advantage of the cut rate from English ports. Every emigrant who gives his destination as England is carefully examined by the German authorities as to the possibility of his proceeding to the United States from the first-named point. He is not even given the benefit of a doubt, but if suspected of such an intention is refused transportation to England. A number have made their way to Rotterdam, and from that place have proceeded to England. A number have also gone through the Russian port of Libau to England, and from there to the United States. The suspicions of the German authorities are generally well founded, for there is comparatively little genuine emigration to England as the final point of destination; and where transportation to England is flatly refused, the emigrant usually frankly admits his purpose of going to the United States, and pays the full rate for a ticket thereto.

It must be admitted that in some minor points the cheapness of transportation to the United States in consequence of the rate war has not been entirely bad. For instance, it has resulted in an exodus of domestic and agricultural labor from Great Britain, which is viewed with alarm by the people of that country. These classes of emigrants go to the United States with the avowed intention of following their regular occupations, which are certainly not overcrowded in America. The rate war is also responsible, in connection with the armed conflict between Russia and Japan, for a marked improvement in the physical appearance of the Russians emigrating to America. Large numbers of young men from Russia, between 18 and 30 years of age, leave the German ports on every vessel departing for the United States. Once free from Russian soil they frankly admit that the purpose of their emigration is to escape military service in the Far East; and while their motives for crossing the ocean are not especially commendable or patriotic, their physical characteristics render them unobjectionable, from a medical point of view, as immigrants. The Russian law forbids these men leaving their country, but there is apparently a well-organized business conducted by a number of enterprising individuals in smuggling these men across the Russian frontier for a consideration said to amount to about $10 for each person. A number of these emigrants have personally related their experiences to me, telling most interesting stories of forced marches at night through almost impenetrable forests, under the guidance of the men who were paid to get them out of the country. They suffer no inconsiderable hardship in undertaking this journey, and run a constant risk of being caught and sent to prison for several years.

Speaking of the steamship rate war in a general way, I have failed to find a single official, either of the steamship companies or of the governments concerned in emigration matters, who did not greatly deplore the consequences thereof. It is looked upon as a thoroughly bad influence, and the possible evil effects of cheap rates for emigrant traffic are recognized in the Italian emigration law, which forbids the sale of an emigrant ticket for less than a certain sum. A principle, as well as a commercial fact, underlies the controversy.

The number of deportations from the United States for violations of the alien contract-labor law, I am confident do not represent the entire number of immigrants who arrive at American ports with definite knowledge as to where they are to find employment. This is an extremely difficult matter to handle, however, as any man with sufficient intelligence to make a contract in advance, or for his services to be especially desirable, can, under instructions from his future employer or representative, conceal all evidence of any agreement. I doubt whether many aliens go to the United States with definite legal or binding contracts for employment. Undoubtedly, a great many do go knowing where they are going to work, and assured of employment through some friend or relative in the United States. The provisions of the alien contract-labor law are thoroughly understood by the agents of the steamship companies and all officials having to do with emigration to the United States.

In England, the board of emigration warns all intending emigrants of the existence of this law; and quite recently a large delegation of coal miners in Wales was prevented from leaving for the United States, where they had been promised employment, by warning from this board. Under these circumstances, contract laborers who go to the United States must do so either through profound ignorance, or else with the willful intention of attempting to evade the American law.

The great desirability of securing a rapid and wide distribution of arriving aliens throughout the United States would apparently suggest the dissemination throughout Europe of information which would enable emigrants to arrange for direct transportation to particular States, Territories, or localities where they would most readily find employment. The laws of the countries on the continent of Europe from which the bulk of the emigrants are now coming forbid any such advertising or solicitation of traffic, and if it was considered desirable to spread such information throughout Europe, it would have to be done with the full consent and cooperation of the various governments. After the emigrant has reached New York or some other American port his natural timidity, ignorance of the country, and lack of funds would prevent, as a general rule, his proceeding beyond the port of debarkation. In previous communications to the Bureau I have suggested the possibility of securing colonies of farmers who would go en masse to some particular American State or Territory, and there, to their own and the advantage of the community, undertake the purchase of land in moderate areas, and add to the desirable labor element in that region. As stated, this could only be done with the cooperation of the governments of the people concerned, even if it did not conflict with the alien contract-labor law.

The efficiency of the medical examination undergone by aliens seeking admission to the United States is undoubtedly the question of greatest immediate importance to the American people in considering the entire matter of immigration. To the thoroughness and intelligence of the medical representatives of the Bureau stationed at American ports is due the general impression, which now prevails throughout Europe, that the American restriction laws are vigilantly enforced. To the alertness of the American officials is entirely due such discrimination as is shown by the steamship companies in accepting emigrant business at foreign ports. The best results can not be obtained, however, until a skilled medical examiner, in the exclusive employ of the United States Government, is allowed to inspect every emigrant bound for the United States before such emigrant goes on board the steamer which is to convey him to an American port. At a few places, such as Naples, for instance, the United States has been able to maintain such an official, and the results of his labors have proved of incalculable value to the people of the country he represents. It is true that at the present time every emigrant undergoes more or less of a medical examination to determine his admissibility at an American port. At some ports this examination is thorough and expert, but the fact can not be lost sight of that these examinations are conducted, not from the point of view of the American Government, but from the point of view of the public carrier, anxious to do business and desirous of securing the admission to the United States of all those inspected.

The appearance in the United States of a great plague of disease imported from Europe would surprise no medical man familiar with European conditions and in touch with the increasing human tide of immigration flowing toward the North American continent from sources many of which are beyond the jurisdiction of modern sanitation. The people of Europe are accustomed to disease, for among them at all times are numerous cases of what are considered dangerously contagious diseases. It is not usual, for instance, to regard Europe as a source of yellow fever, and yet in the history of events are recorded epidemics in that part of the world beside which those already experienced in the Western Hemisphere appear insignificant. Outbreaks of cholera and bubonic plague occur frequently in localities so isolated from the world as to cause little concern. Hardly a month passes, however, in which evidences of these diseases are not discovered at one or more of the great seaports of southern Europe. Trachoma, an insidious and disabling disease of the eyes, prevails extensively from Spain to the Levant. Nearly 20,000 intending emigrants were rejected last year at the port of Naples alone because of being afflicted with trachoma. No effort which can be made by the United States Government to prevent trachoma from securing a perceptible foothold in America would be considered as extreme by the medical authorities of foreign countries where this disease is prevalent. The democratic character and the high standard of excellence for which the public school system of the United States is justly celebrated is due to the high physical condition of the children of the nation. No family which can afford to pay for tuition will send its children to the public schools in southern Europe because of the probability of contracting eye disease. Should trachoma, which has already made its appearance

in New York City, become general in the large cities of the United States, it would practically destroy the value of the public school system. European medical authorities who have specialized in this direction state that the climate of the United States is peculiarly favorable to the rapid development and spread of this disease. Favus is another loathsome disease prevalent among the lower classes of southern Europe, against which all possible precautions are necessary to prevent its becoming general in congested communities in American cities.

Cooped up in narrow quarters, unable to exercise even the most ordinary requirements of cleanliness, the people in emigrant ships are all exposed to whatever contagious disease may be found among them. The results of such contagion may not appear by the time the ship arrives in New York, hence the most careful inspection on the part of the American emigrant authorities would not avail in preventing the introduction of these diseases into the country. Disinterested medical authorities in Europe frankly state their belief that the United States should have a competent medical officer at every port where emigrants embark for North America. These men would not have authority to exclude people from foreign ships at foreign ports, but if the steamship company insisted upon taking a man whose rejection had been advised by the American medical officer, the United States Government could exercise its authority upon the arrival of the ship in New York, acting upon advices received from the American representative at the port of departure. I believe, however, that in most cases the arrangement could be made entirely harmonious, for such is the case at ports where American officials are now stationed. I beg leave to state that in my opinion such American representatives stationed abroad should be liberally paid for their services, as it is most desirable that they should be men of expert knowledge and high character. The employment of American citizens, coming from the United States, would also be preferable to the employment of natives of the countries in which the examinations were made.

The method generally pursued in the final medical examination of departing emigrants is for two or three doctors to work simultaneously, consulting with each other over doubtful cases. Where two are employed, one represents the local quarantine or board of trade authorities and the other is the ship's doctor. When there are three doctors, the third man is either in the employ of the American Government through the consulate, or is another representative of the steamship company. The examination is hasty, but, as a rule, the men are experts at their business and accustomed to judge of the general condition of the emigrant at a single glance. Signs of fever, eruptions on the skin, the condition of the eyes, deformities, or the results of accidents are looked for. At some ports the eyelids of every emigrant are turned back in the search for trachoma. At other ports this is not done unless the lids show some outward signs of heaviness or congestion. When the case comes evidently under the excluded classifications of the American law, the emigrant is promptly refused passage. When a doubtful case appears, a consultation is held, the emigrant is either passed or held on shore for further observation, and at times is sent to a hospital, in hopes of putting him into such condition as will probably insure his admission to the United States. The whole point of the medical examination as now conducted at European ports is that it is conducted for two reasons: First, the quarantine examination to prevent the sailing of people with infectious diseases. Second, to determine the admissibility of the emigrant to the United States. The first point is similar the world over and in all countries, the second point is governed entirely by the degree of vigilance and the rigor with which the American laws are enforced at American ports; and the care now exercised at European ports in the medical examination of departing emigrants is due entirely, as before stated, to the belief that such care is necessary to avoid conflict with the American authorities. I beg leave to state that in my opinion, generally speaking, the medical examination of emigrants, as now conducted at European ports, is as thorough and efficient as can be expected from men whose interests lie in passing people through the American barriers rather than giving the United States the benefit of the doubt. The only way, therefore, to secure any marked increase of care in the selection of emigrants for shipment to the United States would be to have these medical examinations participated in or conducted by men representing the American Government. Under the present system the American interests are not represented at a majority of the important ports of departure.

There is considerable agitation in England against the introduction of ankylostomiasis, or miner's worm, through immigrant sources. At a recent conference of mine operators and operatives held at Newcastle earnest protests were made against the admission of Hungarian miners to the British coal pits, for sanitary reasons. It was suggested to the English Government that this disease should be included in the list of those deemed infectious, and that alien miners coming from infected districts should

not be admitted to British coal pits. British physicians apparently attach less importance to trachoma as a dangerous disease than it seems to warrant. On the east coast of England, where the continental immigrants land, inspection for trachoma is now made at the port of London, but at Dover, Folkestone, and Newhaven there is no such inspection. The eye hospitals of England are overrun with aliens demanding treatment—a large number of these people having been refused transportation to the United States because of eye troubles—and public sentiment in England is becoming aroused to the real seriousnees of trachoma when it obtains a foothold among a people.

I respectfully submit it is my belief, based upon observations and interviews in seven important European countries, that the time is ripe for a movement toward an international conference of government officials concerned with emigration and immigration matters. The purposes of such a conference would be many, and the probable results of great value to all concerned, to none more than to the United States. To this country all other nations will look for the initiative, as the present American administration of emigrant affairs is considered the most advanced, and to this country come nearly 1,000,000 people annually, or considerably over one-half of the annual emigration movement of the world.

By reason of this latter fact the people of the United States are deeply concerned with the laws and regulations of the countries from which the immigrants come, and the countries of origin are faced with problems, even more serious than those now met with in the United States, in protecting themselves from economic losses through undue decrease in population, as well as to the protection of their emigrating citizens from the consequences of ignorance, errors of judgment, misrepresentations, and from the solicitations of all too active regular or irregular agents of transportation companies.

A thorough understanding of the real purpose of the immigration restrictions of the United States would undoubtedly bring about more intelligent and willing cooperation at foreign points of embarkation and even, possibly, before long a more uniform system of controlling emigration throughout Europe. Such an international conference as is here suggested would find itself concerned not only with the details of administration but with great questions of law and policy tending to reduce what is admitted to be an abnormal emigration movement to the more normal basis now greatly desired, not only by the countries receiving this exodus, but by those whose population is being depleted thereby at an alarming rate. Great Britain is now as much or even more concerned over emigration matters than is the United States, owing to the congestion of her habitable area; and it is conservative to predict that possibly within a year the British people will have adopted a law even more drastic in its exclusion conditions than the present American law. England is to-day the great highway and gathering point for a large number of the most undesirable of all emigrants who go to the United States. Friendly cooperation between the emigrant officials of Great Britain and the United States would be of enormous mutual advantage from civic and police as well as a medical point of view. I have entered more fully into this matter in previous letters to the Bureau, subsequent investigations merely confirming my belief that most important and desirable results might be secured from an exchange of views among the officials charged with the administration of the laws and regulations governing emigration and immigration in the various countries concerned.

Pursuant to your expressed wish, I am engaged in compiling the emigration and immigration laws and regulations of the thirteen European countries especially important in respect to the emigration movement. This proves to be no small task, for as yet I have found no country in which these laws and regulations are compiled separately from other government acts. They are contained in the codes, a paragraph here and there, many of them parts of laws of many years standing, and the regulations are contained in numerous ministerial decrees or mandates of government administration, major parts of which often refer to other matters. Once gathered together and translated, however, this information should prove most valuable in making rulings and regulations governing the emigration movement from the various European ports.

To require of each immigrant entering the United States a passport or identification paper signed by a responsible official in the country from which the emigrant comes, and possibly viséed by an American consul stationed there, has been suggested as advisable. If such papers not only identified the holder beyond doubt, but also contained the salient points of his civil and personal history, they would undoubtedly be of great value in determining the legality of admission to the United States and eliminate a large element of uncertainty which now exists as to the real identity of

many of the applicants and their previous history, as it may have a bearing upon their degree of desirability as citizens. The practicability of enforcing such a requirement would evidently depend upon the possibility of securing such papers in the various countries now contributing to the emigration movement without placing too great a burden of expense or trouble upon the intending emigrant.

With a view to determining the status of this matter in Europe, I am, pursuant to your request, gathering information in each country as to the laws and regulations which would apply thereto. This investigation is not sufficiently advanced as yet for me to venture the opinion that it would be practicable without cooperation on the part of the various European governments, though it would probably not be. In France, for instance, prior to 1879 all French citizens leaving the country were required to secure a passport, which contained much information that would be acceptable to the American immigration authorities. This requirement is not now enforced. As it came into force originally through a ministerial decree, and not through a law, to bring it into activity again would evidently not require legislation by the French lawmaking power, but merely the cooperation of the French Government. The information I already have leads me to believe that it would not require many changes in the customs or police regulations of many European countries to render it entirely practicable for each departing citizen to secure some form of official paper which would serve as a complete identification and possibly contain additional information, such as is now secured only by questioning the immigrant himself and accepting his statement without the possibility of verification.

The present system of issuing naturalization papers in the United States is a prolific source of fraud in the emigrant traffic. An American naturalization certificate carries on its face no means of identifying the real owner. His name is merely stated. An original or certified copy of one of these papers can be sent to an intending emigrant in any foreign country, and used by him to secure a passport on the ground that the certificate is his own, and he, as an American citizen, is entitled to enter the United States regardless of his possible undesirability under the immigration law. As a rule, the alleged citizen speaks some language requiring the services of an interpreter, generally of limited intelligence, and careful cross-examination is impossible. When his application for a passport has been approved by the American consul, nothing is left for the embassy to do but to grant a passport upon these representations, which passport guarantees admission to the United States. It has been suggested that naturalization certificates, when issued in the United States, should carry upon their face either a photograph or a description by measurements and marks of the party to whom the certificate is issued, and that each certified copy should be as complete in its usefulness as the original. I am convinced that by some such method the element of fraud in the issuing of passports abroad could be reduced to the minimum. I am informed that the embassy in Rome in a single year issues as many as 1,500 passports upon the presentation of naturalization certificates or copies thereof by Italians claiming to be American citizens. A large proportion of these come from Westchester County, N. Y., though it is only fair to say that nearly every other State in the Union is represented during the year's business.

Another form of abuse is the importation of women from the Levant and elsewhere by naturalized American citizens. All these women are required to do is to state under oath that they are the wives of the men sending for them, and they are allowed to depart for the United States without restriction, becoming American citizens by virtue of their husbands' naturalization. If they are refused transportation because of coming within the prohibited classifications of the American immigration law, they send to the United States for a certified copy of their alleged husband's naturalization papers and secure a passport in that manner. There is no proof of marriage under the present system. Should the United States Government decide to require a passport from each immigrant, certified by the officials of the land of his nativity, this abuse could be stopped. It is worthy of note that the proposed immigration law of Great Britain includes this passport requirement, which I have discussed elsewhere in this report.

Without international agreement the United States Government can have no authority over passenger traffic in foreign ports, and so long as there is no international cooperation in emigration matters all regulation of emigrant movement must be by indirection, as at the present time. That this indirect control can be made effective in most cases is shown in the present recognition by steamship companies of the American requirements and their attempts to meet these requirements by conservatism in accepting passenger business abroad destined for the United States.

So long as a foreign government is agreeable to the presence of an American official at a European port of emigrant embarkation, which is generally the case, it can be

made to the interests of the steamship companies to afford every assistance in the matter of inspection, and to accept the services of said official in an advisory capacity. The check upon the steamship companies lies in the power of the Bureau to support the contentions of its representative stationed abroad by acting upon his recommendations when the steamship arrives in an American port and the passengers come under the absolute and legal jurisdiction of the American Government. This method is now pursued with considerable success at the port of Naples with the full consent and approval of the Italian Government. I am fully convinced, after careful observation, that through the cooperation of representatives of the Bureau stationed abroad with the representatives of the Bureau at American ports, almost as effective control of the emigration movement from European ports could be secured as though the United States Government had full power to supervise and discriminate in the matter of foreign embarkation.

It would appear, therefore, that the best interests of the American people would be served and the American laws be better carried into effect, both as to letter and intent, by some regular system of emigrant inspection at foreign ports of embarkation. I venture to suggest that this could best be accomplished by maintaining an office at some important and central point, say Hamburg, Germany, to be filled by a deputy commissioner-general of immigration in charge of a corps of inspectors, to be stationed at all great ports of European embarkation, these inspectors to work in cooperation with medical inspectors also employed by the Bureau. In many parts of Europe two or more ports could be covered by a single inspector, and the total number of such officials required would not be great, owing to the concentration of all steamship traffic at a limited number of ports. These emigrant officials would necessarily work in conjunction with the consulates in the clearing of vessels for sailing. The work of the medical inspectors would be nothing new, nor would the institution be novel. It is now carried on at Naples and some other places, much as it would be under the plan proposed. The work of the emigrant inspector would result in checking many departures of undesirables, hence lessen the number of deportations and relieve some of the pressure under which the port officials in the United States now labor. Inquiries could be made by the inspectors stationed abroad which would lessen the number of paupers, criminals, assisted emigrants, and contract laborers who now reach America. A better check could be maintained in this way upon the proper return of deported emigrants, and information secured as to their subsequent fate, the latter point being of great importance, for under the present system the deported emigrant rarely gets farther on his return voyage than the first European port at which his vessel touches, and aided by his previous experience, and the steamship agent eager for business, he soon makes another attempt to reach the United States, often with better success.

It has been recommended that this work could all be done through the consulates. I take the liberty of saying that I do not believe it can be properly carried out except by men familiar with the work and giving their entire time and attention to the same, to say nothing of the fact that the duties of an American consul at a large port are already burdensome. There is also a question of humanity, not to say justice, involved in putting some such system into effect, for the ignorant or unsophisticated emigrant is often led to undertake a journey requiring the sacrifice of every dollar he or she has in the world, only to find it unavailing. Such an emigrant is returned to the European port destitute and disheartened, and if not an immediate recruit for the criminal classes becomes a burden upon public charity. No one who inspects at close range the movement of these thousands of people from Europe can fail to witness almost daily the most distressing and pitiful scenes, such as call forth the deep sympathies of even those hardened by long experience.

The deportation of immigrants coming under the prohibited classifications is one of the most powerful influences for the good in checking undesirable immigration. The thoroughness with which the inspection is now conducted by representatives of the Bureau at American ports of debarkation and the promptness with which transportation companies are required to take back immigrants not permitted to land is the basis of such control as the Bureau is now able to maintain over the European end of the business. A striking illustration of the value of the vigilance now exercised occurred during the recent rate war. Thousands of people were induced to go to America by reason of low rates who would otherwise have been unable to accomplish the journey. The competition among the steamship companies induced them to ship numbers who were likely to become public charges upon their arrival in the United States, or whose passages had been assisted by charitable organizations. The prompt and rigorous action of the United States Immigration Bureau in refusing a large number of these people a landing checked the ardor of the steamship compa-

nies almost with the inception of the new business and materially lessened the evil consequences to the people of the United States of the reduction in the rates for steerage travel.

In direct ratio to the scope given the Bureau by Congress and to the vigilance and rigor with which the laws and regulations are enforced at American ports is the degree of care exercised by the transportation companies in accepting business abroad. Barring the enforcement of such regulations as are imposed by foreign countries for the protection of crews and passengers upon outgoing ships, all discrimination exercised by the steamship companies in loading their vessels is based upon the requirements at American ports and evident self-interest in avoiding the expense of bringing rejected passengers back to Europe without extra charge. The steamship agents make practically no investigation as to the liability of the emigrant to become a public charge, nor do they make any inquiry as to possible violations of the alien contract labor law. The fact that a great majority of the deportations for the year are based upon these two prohibitions is circumstantial evidence as to the care now taken by the steamship companies to comply with the American requirements as to freedom from disease or disability. A few of the steamship agents impress upon their steerage passengers the necessity of having some money on landing, or in some other way providing a guaranty of self-support. The expense and time involved in the transportation company making careful inquiry into the status of each emigrant would probably outweigh the cost of bringing back the comparatively small percentage deported, but an emigrant inspector devoting his whole time to such investigation would be able to put a perceptible check upon the movement of undesirables beyond the port of intended embarkation. Such an inspector could do much also to assist the American officials at home ports in detecting contract labor. It is manifestly to the advantage of the transportation companies to carry a deported emigrant no farther than is made necessary by the laws or regulations of the countries through which he is taken or the port at which he is first landed. It is also manifestly to the advantage of the steamship company for such deported emigrant to "escape" in New York, after he has been delivered to a vessel by the immigration authorities, but before such vessel leaves port. It is only the fear of detection and subsequent enforcement of penalty that prevents intentional laxness in guarding deported persons. In view of the grave danger to American communities suggested by the possible escape of persons afflicted with disease, paupers, or criminals, who have been delivered to steamship companies for deportation, I take the liberty of expressing my belief that no penalty can be too severe for allowing such escape.

The strict police regulations of France and Germany render it less likely that a deported emigrant, originally from the interior of Europe, is dumped upon the community adjacent to any of the ports in those countries at which such emigrants are landed. In England there are practically no restrictions, and the conditions in that country as concerns the emigrant traffic to and from the United States constitute not only a serious problem for the English people but stand as a constant menace to the United States, and it is not too much to say that from these present conditions in England arise much of the difficulty incurred in administering the American immigration laws and regulations at American ports.

The proposed immigration legislation in Great Britain promises to be of far-reaching importance to the United States. From time immemorial England has been a free asylum for the people of all lands, almost regardless of their mental, moral, or physical condition. The British Government now proposes a law which, under the British form of government, is permissible, but which contains provisions making a similar law impossible in the United States. The general effect of the proposed English law promises to be of advantage to America, for, as elsewhere stated, England is now a gathering point for undesirable emigration to the United States. The law as proposed in England will require each alien immigrant to be in possession of a passport from his country of origin, on which will be recorded the bearer's past history. Persons with a criminal record will be prohibited from landing on English soil. Shipping companies landing undesirable aliens will be compelled to take them back at their own expense. Immigrants who are allowed to land will be subject to registration and police surveillance during the first three or possibly five years of their residence in Great Britain, and will be required to report themselves from time to time to the registrars of births and deaths in the districts in which they live. In the event of any particular district becoming congested with aliens the authorities shall have the power to prohibit the admission to it of any additional aliens. Whenever an alien is convicted of a crime, and the sentence imposed amounts to at least six months' imprisonment, the judge of the court trying the case shall have the power to exile said alien from British soil. Apparently there has as yet been no discussion

of the transshipment of aliens through England, and no proposition has been made whereby the prohibited classes shall be prevented from coming to England for the purpose of embarking for a foreign country. The United States prohibits the landing of undesirable immigrants even though they declare their intention of immediately proceeding to Canada. If Great Britain should adopt a similar plan in regard to emigration to North America, originating in Europe and using England as its point of final departure, such a ruling would prove of immense value to the United States and constitute but a just return for the protection which the United States now gives to Canada along her southern border.

From many of the European ports, especially from Havre, France, emigrants rejected by the steamship companies as unlikely to be admitted to the United States are sent to South America. There are, apparently, no restrictions in Brazil, Argentina, or other South American countries upon the admission of immigrants. The result of this is that emigrants, constituting a grave menace to the health and welfare of any community in which they may choose to remain, are shipped without reservation to South American ports. This course, long continued, can not fail to produce most undesirable conditions in the larger South American cities. There is little doubt but that many of these rejected emigrants who go to South America hope in time to obtain admission to the United States by some less direct route than the one of original intention from Europe. Whether this argument is used by the steamship agents or not in persuading these people to go to South America it is impossible to say positively, but it is more than probable. This condition of affairs suggests a possible source of danger to the people of the United States from immigration from South America, much of which comes to southern ports, where the machinery of inspection is not so complete as at the principal ports of American debarkation.

The emigration laws of several of the European countries are notably to the advantage of the United States in the close supervision maintained over departures and the strict regulations affecting the solicitation of traffic. This is particularly the case with Italy, where the law goes so far as to fix a minimum price to be charged for a steerage ticket from an Italian to an American port. Unfortunately the efforts made by the Italian Government to restrict emigration are largely set at naught by the lack of restriction in neighboring countries. By crossing the Italian line to the north the intending emigrant can purchase from an agent in Switzerland a ticket to the United States at a lower rate than is permitted by the Italian Government, and his departure is attended with less formality and surrounded by fewer precautions than if he left from his native land. To such a size has this outside business of selling transportation to Italian emigrants grown that in the border town of Chiasso a score of steamship offices are maintained for the sale of tickets to America. Nor are these agencies confined to Chiasso. There are a number to be found in the Swiss towns, whose business is almost entirely the handling of Italians. In the course of an investigation of certain complaints made against a Swiss firm of ticket agents, such investigation having been ordered by the Bureau, I found a single agency of a single trans-Atlantic line which had, during the preceding twelve months, sold 2,600 tickets reading from the Italian border to New York or Philadelphia via Antwerp. Practically all of these tickets were sold to Italians, and the business was secured through the mails by advertising and correspondence. This firm stated that they did not sell a ticket to a man unless he had been pronounced by their appointed physician to be eligible for admission to the United States, and that they had refused to sell tickets to 200 people during the preceding year. It was certainly impossible, after a careful examination of the methods pursued, to believe that such medical examination could be thorough or conducted from any point of view except the possibility of the emigrant being allowed to depart for America. This particular agency of which I speak, and which has been reported upon in detail to the Bureau in previous letters, was apparently conducted upon reasonably honest lines and in a superior manner to many others. Many tickets are sold, or the sale is arranged for, by utterly irresponsible individuals, who receive a fee of 5s. for giving the initiative push to each emigrant who finally purchases transportation.

It is through these minor agencies throughout central Europe, and through the efforts of individuals seeking a small commission, that hundreds of people are induced to undertake the journey to America, and are actually sold tickets, who are sure of rejection on their arrival at the port of embarkation in western Europe, or who will be deported if the steamship company takes them to the United States. While it is a matter apparently beyond the jurisdiction of the American authorities, one of the gravest evils and cruelest wrongs perpetrated in the conduct of the emigration business in Europe is the sale of tickets to those who will inevitably be rejected. At Liverpool, Southampton, Havre, Hamburg, and Bremen I have personally witnessed the most terrible scenes of despair and suffering on the part of these unfortunate

creatures. Persons afflicted with goiter, trachoma, favus, or hopelessly crippled, have presented themselves for admission to the steamers, and of course were turned back, although in many cases the hardest and even the longest part of their journey lay behind them. So terrible are the scenes which ofttimes result when the emigrant is told that he can not after all go to the United States, that the authorities in some of the ports have been compelled to play upon the ignorance of these poor people to get them away from the other emigrants and from the public offices before they realized what had happened to them. In Bremen, for instance, their ticket is taken from them and they are given a card with instructions to show it to the manager of the lodging house at which they are stopping and he will tell them what to do. Speaking no language but their own, and that possibly the dialect of some remote province in Russia, Austria, or Hungary, they take these cards with light hearts, confident that they have passed the last barrier between them and the ship which is to take them to America. On their arrival at the lodging house they are informed by an interpreter, inured to such business, as to the real meaning of the paper. What follows it is unnecessary to describe here, and even if necessary it would be almost impossible to do full justice to the agony and distress which ensue. The emotions exhibited vary with the temperament of the individual, from dumb despair to frightful hysterics, during which the condition of mind nearly approaches that of insanity. The cause of humanity would be served by preventing the sale of steamship tickets to people in the interior of Europe who were manifestly ineligible for admission to the United States. There is also a practical side to this question which closely concerns the work of the Bureau in decreasing the number of undesirables seeking admission to the United States.

Emigrants who have made the journey from the interior of Europe to the sea coast and are there rejected by the transportation companies are quite ready to accept any proposition which may be made to them to go to some other port or other country and from there make another attempt to secure transportation to the United States. Some go to Rotterdam from the German ports and others direct to England, and there join the great army of "suspects" forever seeking a chance to reach American shores. A careful examination of each intending emigrant at or near his home to determine his eligibility as a purchaser of ocean transportation would be not only in the interests of humanity, but in the interests of the countries now receiving the bulk of the emigration movement. The cooperation of the emigration authorities of European countries is already given to a certain extent in this matter, and I believe in time that the system suggested could be brought into full effect by more perfect cooperation and a better general understanding of the emigrant situation from an international point of view.

The strictest possible control over the transportation interests engaged in emigrant traffic, wherever such interests come within the jurisdiction of the United States Government, is one of the most practical and surest methods of decreasing the flow of undesirable immigration and raising the standard of the average immigrant. Some of the European countries already have in force laws which, according to their letter, are most severe in the restriction placed upon the soliciting of emigrant business. Unfortunately, however, there are many ways of evading a strict compliance with the spirit of such laws, and they are evidently not as effective as their reading gives promise of. The avowed purpose of these laws in foreign countries is the restriction of emigration, a purpose in entire harmony with the American laws restricting immigration. Here is presented, therefore, a common field for international cooperation. While it is true that exceptional conditions, such as exist in Russia, Austria-Hungary, and Italy, are responsible for a large emigration movement, I am fully convinced that the volume of immigration into the United States would not exceed one-half of the present figure but for the activity of the transportation companies in their hunt for business. Left to their own devices, these companies could increase even the present enormous movement. The only checks now placed upon them come through restrictive legislation in the United States and at least a partial enforcement of the laws of Russia, Austria-Hungary, and Italy restricting emigration. My own observations in this direction have extended through England, France, Germany, Italy, and Switzerland, and my conclusions are fully confirmed by the testimony of English experts who have traveled extensively through northern Europe for the purpose of investigating this matter, and by the information I have secured through American consulates, and even from the transportation agents themselves. In the ordinary course of business each steamship line maintains a general agency at important points. These in turn appoint subagents, who in their turn enlist the services of all classes of people occupying all manner of positions to drum up trade for their respective lines. The business is profitable and tremendous in its aggregate. I do not believe it would be an exaggeration to say that the gross annual income of railroads

and steamship lines from the emigrant traffic alone amounts to at least $50,000,000. The steamship companies themselves disclaim all connection with anyone except their general agent, and profess to know nothing of the abnormal effort put forth to induce people to emigrate. The more they get the easier it is to keep up the full flow of the tide, and the interest and excitement in the movement is stimulated in every possible way where the emigration fever has obtained a good foothold. In northern, central, and southern Europe there is an enormous amount of material to work upon, and the most remote agricultural valleys are invaded by agents with advertising matter of every description and emigration missionaries ostensibly engaged in other business. It is one of the best organized, most energetically conducted branches of commerce in the world.

If, as intended by the laws of most of the European countries, the steamship lines waited for such business as would come to them naturally, thousands of people who now start for America would never receive the initiative push necessary to dislodge them from their natural environment. Tickets are sold to people who have but the vaguest idea of where they are going, who lack all the qualifications necessary for life in a strange country. Families are broken up, and every opportunity is given for undesirable characters to escape to places where they are not so well known. Incidental investigation into abuses along these lines, and even the subsequent arrest and conviction of a subagent here or there, is without the slightest effect upon the general situation. The steamship company itself is not brought into the controversy. The prosecution is merely an individual matter, and apparently only stimulates other agents to more adroit methods of overcoming the law. I beg leave to say that, not only in my opinion, but in the opinion of European authorities who have given this matter years of study, the prosecution of these subagents is taking the matter up at the small end, and amounts to little in dealing with a question which concerns the policies of big corporations rather than the efforts of insignificant individuals to turn an infinitesimal profit by the sale of a ticket. This ticket passes through so many hands, in effect, before it reaches the emigrant, and the original commission for handling the business is subdivided so many times, that it is difficult to lay the finger on the responsible party if the company itself be eliminated. This the company takes good care to accomplish by appointing territorial agents and leaving the details and subsequent business entirely in their hands. These agents are natives of the countries in which they do business. They are strongly established in the section of the country in which they operate, and there is considerable competition among the companies to secure their services. As I have stated, it is generally agreed that there can be no advantageous control of this business except through the enforcement of restrictive laws and regulations in the countries where emigrant traffic forms a considerable business. The present rigorous enforcement of the American law, as carried on by the Bureau through its representatives at American ports, amounts practically to the entire check, direct or indirect, under which the European business is conducted. The emigrants are not examined by the steamship companies for any purpose except to see whether they will pass the American barriers, and there would be no examination at all except by quarantine officials if it was not made necessary by the American laws.

There is no sentiment whatever involved in this matter. It is a plain business proposition for these companies to secure as much freight as possible for their vessels, regardless of any economic disturbance which might occur in territory affected by their operations. There can be no question of prosecution or persecution in enacting such laws or enforcing such regulations as apparently have the most effect in preventing undesirable persons from emigrating to the United States. The American laws and regulations are fully known and their intention thoroughly understood by all the the responsible carriers of this human freight; and where a penalty is enforced for the violation of any of the American regulations, it is not a real hardship upon the transportation company, for it has been incurred either through carelessness or willingness to take a risk for the sake of securing business of doubtful character. The only apparent remedy, or rather check, upon the greater evils resulting from the eagerness of transportation companies to secure emigrant business is, I venture to state, the adoption with perfect freedom of the highest degree of restrictive legislation desired, and the rigid enforcement of its provisions by the imposition of severe penalties and fines for infractions thereof. Whatever the American people shall decide is the standard for admission to the United States, and whatever measures are considered fully adequate to protect the country from alien crime, pauperism, and disease, should be enacted into law, and the utmost power be given the Bureau of Immigration to enforce the same, with whatever expenditure of money is needed to this end.

Generally speaking, the accommodations for emigrant travel on the principal lines of Atlantic steamers are as good as can be expected, and the constant Government supervision given this feature of the traffic is responsible for maintaining a good standard of food and sanitation. There is one point, however, in respect to which I venture to state my belief there could be some improvement, and that is in the policing of the emigrant decks. A very large percentage of the people who travel steerage are respectable, orderly, and naturally cleanly. Unfortunately for these of the better class, however, there are always a number whose dispositions, characters, and habits are far from making them desirable as traveling companions. The most careful supervision of the emigrant quarters and decks is necessary to keep them from becoming disgustingly offensive, and to prevent brutality, lamentable in its effect where so many people are cooped up together in such close quarters for many days at a time. I have seen a half-grown youth strike a little girl between the eyes, knocking her flat upon the deck, and then rob her of her piece of bread which she had in her hand, and the incident attract not the slightest attention from the sailors or stewards who might possibly be on duty at that time. Such incidents could rarely occur if the steerage deck were well policed; and if there was occasional trouble the prompt punishment of the instigators would certainly add to the comfort of the rest of the passengers during the remainder of the voyage. The carrying of steerage passengers at the regular rates which prevail when there is no rate war in progress is a most profitable business, it being estimated by those engaged therein that the cost of handling an emigrant from Europe to the United States is about one-half of the fare he pays. This being the case, it would be no hardship upon the transportation companies to compel them to give their steerage passengers equal personal protection from insult or injury which is afforded to other passengers upon the same ship.

NEW IMMIGRATION LEGISLATION.

Paramount in importance to all other new legislation in regard to alien immigration, the Bureau considers some adequate measure for the distribution of aliens who are admitted to this country. As long as this feature of immigration is left to take care of itself, or, more properly speaking, is left to the tender mercies of those who can perceive no other aspect of our alien population than its capacity to contribute to their wholly selfish interests, truth must compel those who have given careful thought to the subject to confess that merely the outside of the problem has thus far been approached. Upon this subject the Bureau has expressed its views at greater length elsewhere in this report, but it has no apology to offer for repetition, so great is the necessity for prompt action in the direction recommended.

The new legislation next in importance is suitable provision for the physical inspection of aliens by officers of the Public Health and Marine-Hospial Service at foreign ports before embarkation for the United States. A similar recommendation was made in the last annual report, and is now repeated with even a stronger conviction that it is indispensable to the protection of this country from disease, as well as from such burdens as that now borne by the State of New York for the care of insane aliens only, amounting, as shown elsewhere, to, approximately, 6,000 patients. How effective such an examination would be is also shown in another part of this report, giving the number of diseased aliens discovered by United States surgeons at trans-Pacific ports.

The other recommendations for new legislation made last year are also repeated. These consist of one to apply some moral and mental test to arriving aliens, so as to establish a reasonable standard in these respects for those who seek to become a part of our population and ultimately to acquire American citizenship, and of one to collect and compile data of the outgoing alien travel, thus affording the means of

ascertaining, with some approximation to accuracy, the net annual increase of the population from alien immigration.

As intimated in treating the subject of the alien contract-labor laws, it may also become necessary, should the Supreme Court affirm the view taken by Judge Lacombe, to provide that the action of a board of special inquiry, when favorable to admission, shall not be construed as such a final adjudication of the right of any alien to enter the United States as to prevent the exercise of the authority conferred upon you, as Secretary, by sections 20 and 21 of the act of March 3, 1903. It has always been held that the admission of any alien conferred upon him only a conditional right of residence in the United States during the period in which by law he might be arrested and deported on the ground that his entry was unlawful, though administrative officers had failed to ascertain at the time of inspection the facts which constituted him a member of one of the excluded classes. After the expiration of the time within which such unlawfully resident alien could be deported by statutory provision, then his right to residence became absolute, on the same principle as the limitation of actions at law. It is most important that any language in the recent immigration act of March 3, 1903, which seems to import an intention on the part of Congress to alter or repeal the prior constructions of the law on this point, be amended, if necessary, to maintain such prior view, and continuous administrative action in harmony therewith.

CHINESE-EXCLUSION LAWS.

In no other branch of its administrative work does the Bureau feel that such a marked advance has been made as in the successful enforcement of the Chinese-exclusion laws. This is particularly gratifying, because, as pointed out in former reports, there is probably not another legislative measure on the statute books that has the support of a less general popular comprehension. It was enacted in response to a purely local demand, because the evil to be met was felt in but a few places, but when it was felt the conviction that the exclusion of Chinese labor was a necessity, had all the intensity of other convictions based upon considerations of self-preservation. In the towns and cities of most of the eastern and southern States where an insignificant number of these silent, methodical, and outwardly inoffensive Orientals quietly and industriously pursued their usual avocations of laundrymen and small dealers in rice and other Chinese comestibles, their presence seemed rather an advantage than otherwise, particularly as they afforded a means for the exercise of the local missionary spirit. It was only in those western communities where native industry, in its various branches, found itself surely and steadily undermined, and its very means of subsistence taken from it by a species of labor whose only object was the acquirement of money, and whose domestic life and requirements reduced the competition from one of productive capacity to one of physical endurance, that the necessity of preventing a condition that could result ultimately only in a struggle to determine whether an American workingman or a Chinaman could maintain life at the minimum of expense, comfort, and decency, was perceived to be imperative. As to the hundreds, therefore, who either unlawfully resided in, or sought admission into, other parts of the United

States than those whose citizens had learned the dangers of Chinese competition from a large resident population of that race, the Bureau found itself without the support of public sympathy or good will in its efforts to enforce the law. Not only private citizens, but public officials and even judicial officers occasionally, in such parts of the country resisted the attempts of the Bureau, going so far at times as openly to express their disapproval of the law, a disapproval occasionally so little governed by patriotic respect for lawful authority as seemingly to justify these genuine freethinkers in their own minds in making or applauding an active resistance to the law and its executive officers. The difficulties involved in this condition were, moreover, emphasized by the fact that the administration of these laws was confided to so many independent executive agencies. The general supervision at the seat of government was in 1900 transferred to this Bureau. At the ports of entry the collectors of customs were the designated agencies, and in all matters of registration or reissuance of lost or destroyed certificates the collectors of internal revenue were employed. The results of such a division of authority were, as might reasonably be assumed, productive of confusion and relatively ineffective administration of the laws. All this was remedied, however, by the organic act of February 14, 1903, creating the Department of Commerce and Labor. As a result thereof, at the beginning of the fiscal year, officers of the Bureau were substituted for collectors of customs at the various ports of entry for Chinese, and all the records of the collectors of internal revenue were transferred to the capital and placed in charge of a Bureau officer who was clothed with the authority theretofore exercised by such collectors. Thus was consolidated under one responsible head the administrative authority and duties conferred by the Chinese exclusion laws, and it became possible to unify and simplify and thus render more effective a branch of the public service formerly conducted by various heads according to their varying interpretations of the laws. The results of this, as the following pages of this report will show, have been highly beneficial and should be most gratifying to those who approve the enforcement of the law because it is the appropriately expressed will of the people of this country. From those, fortunately few in number, who as citizens of this country can justify themselves, because of nonassent to the policy expressed thereby, in opposing the operation in any case of the law of the land, it is vain to expect approval of such effective administrative work.

BORDER PORTS.

In the last annual report of the Bureau the circumstances were narrated, in detail, which led to the contract, fully set forth therein, between the Government and the Canadian Pacific Railway Company. Under the law there was doubtless authority to reach a satisfactory solution of the border question, so far as Chinese immigration was concerned, by simply closing all the ports of entry along the Canadian border which had been opened by executive order merely. This, however, would have interfered with the freedom of intercourse between the two countries by absolutely putting a stop to the travel of Chinese laborers over transportation lines of this country connecting with the Canadian Pacific Railway. If the same end could be accomplished by less drastic methods, it seemed desirable to avoid any

course which, while checking an admitted abuse, would at the same time destroy legitimate business. The contract was therefore resorted to, and under its terms all Chinese persons destined to the United States have been brought through Canada under guards and delivered, at some one of the four exclusive ports of entry on the boundary, to Bureau officers for inspection by the latter. These Chinese passengers are comfortably housed in suitable buildings, rented and furnished by the Government. Their expenses while awaiting a decision as to their right of admission to the United States are borne by the Canadian Pacific Railway Company, which company also returns to China at its expense those who are finally adjudged to be inadmissible to this country. This plan has now been tried for a period of more than twelve months, and, despite many delays and discouragements, has been found to accomplish its purpose satisfactorily. At the present time there are but a very few Chinese coming to this country by way of Canada. The detention houses at the ports mentioned are almost empty. The jails in the counties bordering on Canada, which for years past have been crowded beyond their capacity with Chinese prisoners who had entered this country from the Dominion in disregard of the law, contain only a few arrested for unlawful residence in the United States, and the public appropriations have been relieved of the enormous burden of maintaining and deporting such Chinese immigrants. It is difficult to overestimate the practical advantage to a successful enforcement of the law that has thus been secured. No Chinese person from China can enter the United States through Canada without submitting to an examination by Bureau officers, and only a few of those Chinese residing in Canada will resort to smugglers or to unlawful crossing, since the Dominion has imposed an admission tax of $500 per head on those who may lawfully enter her territory. This result, however, was not accomplished without much patience and persistence on the part of the Bureau officers, whose work in this direction was made effective by the admirable and unstinted support of the Department of Justice. As the principal means of destroying the usefulness of the new arrangement for border inspection, Chinese passengers brought to the detention stations were instructed to claim American citizenship on the ground that they were born in the United States, and then to refuse to answer any other interrogatory of the administrative officers. As the latter were then compelled to deny such alleged citizens admission because of lack of evidence to substantiate their claims, recourse was had to habeas corpus and trial before some commissioner of a federal court, acting as referee. This plan, if successful, would have restored the condition, with all of its attendant abuses, which existed before the contract was made with the Canadian Pacific Railway Company.

The following extract from the annual report of the inspector in charge at Malone, N. Y., will serve to show the situation at Malone twelve months since and at the present time:

At the beginning of the last fiscal year, which was also the time I assumed charge in this district, the detention station at Malone was opened for the purpose, if possible, of preventing the practice, which has been in vogue in this district for some years, of Chinese walking over the boundary line, submitting to arrest, then alleging nativity. How well the detention station has succeeded in doing away with this practice is best explained in the table showing the transactions at the port of Malone, which table is made a part of this report and marked "Schedule A." The table referred to shows that a majority of the applicants at Malone were of the alleged

native-born class of Chinese, and, in order to prevent an inquiry into their claims, attorneys interested instructed the applicants to say nothing to the inspectors when they were examined, and their instructions were so completely carried out it was frequently found difficult to even get their correct names. At first, writs of habeas corpus were allowed by the circuit court, and some hundred and odd cases were referred by the said court to a referee to take testimony as to the claim of citizenship. It was contended by the attorneys for the Chinese that the immigration officials did not have authority to act in cases where citizenship was alleged, but to test the question the Government made a return to a writ of habeas corpus and insisted that the courts did not have jurisdiction when a Chinese person made application for admission to the United States at a regular port of entry. The matter was properly presented to Hon. George W. Ray, United States judge for the northern district of New York, and the said judge, on the 1st day of December, 1903, in a comprehensive opinion, held, in the case of Sing Tuck et al., that the immigration officials had the right to pass upon this class of cases, and remanded the applicants to our custody. This decision was appealed to the circuit court of appeals and there reversed. From the circuit court of appeals the case was taken to the Supreme Court of the United States on a writ of certiorari, and that court, on April 25, 1904, reversed the circuit court of appeals.

Every scheme known to the ingenuity of attorneys and Chinese of long experience in this class of cases was used in an attempt to make the detention station at Malone a failure. The charge of illegal detention, of illegally withholding the mails, of illegally preventing interviews with alleged clients, and any statements of officials connected with the service in and about Malone which could be perverted to show, if possible, that administrative officers were adverse to the admission of Chinese, whether right or wrong, were brought out during the year in the various proceedings in court.

During the time the Sing Tuck case was pending in the various courts the attorneys interested, seemingly thinking they would in the end be able to defeat the contention of the Government, caused to be brought from China something over 200 more of the same class, and to meet the emergency it became necessary in November, 1903, to rent temporary quarters at Malone in which to detain the number we were unable to accommodate in the detention station at that place. With the large number detained, the peculiar characteristics of the Chinese, and our inability to compel them to take proper exercise, it was but natural that there should be some sickness. Much to my regret, there were 17 deaths during the year. Finally, however, on the 21st day of June, 1904, or within six days of a year from the date the first Chinaman arrived at the detention station, we disposed of all the alleged native Chinese, returning to China all who were in the detention station at that time, with the exception of 20, who were transferred to the jail at Malone on an order of court.

The United States attorney for the northern district of New York gave these cases his personal attention, and it affords me pleasure to say that this office had his cooperation at all times and the benefit of his good judgment and wise counsel in preparing our part of the cases for the proceedings in court which we knew would later follow.

The good judgment and foresight in establishing the detention station at Malone has been, I think, fully demonstrated, and it seems to me it has so completely put a stop to the bringing to the United States of the alleged native-born Chinese, that the conditions of the past will probably never exist again. Other schemes will doubtless be concocted, yet with the decision such as was rendered in the Sing Tuck case it appears to me we will be able to successfully meet any question which may arise in future. Judging from the results in the past, out of the total of 378 of this class of cases who applied for admission at Malone, we never could have hoped to deport the number stated. Not only has the detention station been a success from this point of view, but also from an economical standpoint. To have deported 263 Chinese through the courts would have cost thousands of dollars, while through the detention station they were returned to China at the expense of the company bringing them, which company also maintained them during the time they were detained.

I am pleased to say that the Canadian Pacific Railway Company has shown the utmost fidelity in its intention to live up to its agreement with the Government in bringing the Chinese to Malone and returning them to China. They have carried out their part of the agreement in every particular where it was possible for them to do so.

I submit herewith a table, marked "Schedule B," showing the number of Chinese arrested, the commissioners before whom they were tried, and the disposition of their cases. In connection with this schedule I desire to respectfully state that of the 123 cases accredited to Commissioner Wells at Malone, 111 were discharged from

the detention station in order to meet a condition which arose. Commissioner Wells had heard these cases as a referee, but no provision having been made under the law for the payment of an adequate fee to him as such, the court ordered their discharge with the understanding that complaints might be made before him, by which arrangement he could pass upon their cases as a commissioner, and in that manner receive the usual fee. These cases have also been included in the report of business transacted at the port of Malone, therefore in reality there were but 363 of the ordinary arrest cases during the year. I might state in connection with this schedule that the arraignment of the majority of the Chinese before the commissioners in the northern district of New York occurred in July and August, the reason for this being that there were numbers of Chinese in Montreal, Canada, waiting an opportunity to come out and be arrested at the time the detention station was opened at Malone. However, since August a few came out for arrest, but supposedly they were persons who were in Canada prior to the opening of the detention station and the increase in the Canadian head tax to $500. This practice will doubtless continue to some extent so long as attorneys can find Chinese who are willing to come from Canada in the manner indicated.

SCHEDULE B.—TABLE SHOWING NUMBER OF CHINESE PERSONS ARRESTED AND DISPOSITION OF THEIR CASES IN THE NORTHERN, EASTERN, AND SOUTHERN DISTRICTS OF NEW YORK DURING FISCAL YEAR ENDED JUNE 30, 1904.

Name and location of commissioner.	Before United States commissioners.					Before United States courts.				Awaiting deportation.		Finally disposed of.	
	Total arrests.	Discharged.	Ordered deported.	Died.	Pending.	Appealed.	Commissioner affirmed.	Commissioner reversed.	Pending.	On order of commissioner.	On order of court.	Deported.	Admitted.
F. W. Dudley, Port Henry	179	134	28	2	15	2	....	....	2	....	....	26	134
John Corbin, Plattsburg	32	26	6	....	....	6	6	....	....	....	....	6	26
E. C. Everest, Plattsburg	32	24	6	1	1	2	2	....	....	4	2	....	24
F. J. Gray, Ogdensburg	59	46	12	....	1	12	4	8	....	....	....	4	54
B. L. Wells, Malone	123	67	53	2	1	32	32	....	....	11	....	42	67
Mr. Loucks, Schenectady	5	2	....	....	3	....	....	....	....	....	....	....	2
D. Sheehan, Troy	15	2	13	....	....	13	12	1	....	....	....	12	3
Mr. Vanderzee, Albany	3	....	3	....	....	....	....	....	....	....	....	3	....
A. Judd Northrup, Syracuse	1	....	....	....	1	....	....	....	....	....	....	....	....
John A. Shields, New York City	6	....	....	....	6	....	....	....	....	....	....	....	....
B. L. Benedict, Brooklyn	1	....	1	....	....	....	....	....	....	....	....	1	....
E. Russ, Hoboken, N. J.[a]	18	....	18	....	....	6	....	....	6	....	....	12	....
Total	474	301	140	5	28	73	56	9	8	15	2	106	310

[a] These cases are included in this report for the reason that the Chinese were apprehended by officers connected with this office, it being shown that they had been smuggled into the United States and destined to New York.

Some improvement may also be noted in those communities where comparatively few Chinamen live, as regards the attitude of the public and of the courts and law officers as they become familiar with the law and with the unblushing deceit resorted to by those who are guilty of violations of that law. This increase of knowledge of the law has resulted from the consolidation in the hands of the Bureau of all branches of the administration. The entire country has been divided into districts, and an officer of the Bureau has been placed in charge of each district, clothed with the authority formerly exercised in this regard by collectors of customs, as well as with power to arrest all unlawful Chinese residents within their districts. Tabulated statements appear further on in this report, from which it may be seen that numerous arrests have been made throughout the country, as a consequence of which the temptation to enter the United States unlawfully is lessened. Those now here in violation of the law are deported

in many instances, and the courts and law officers of the Government are acquiring a knowledge of the laws and of their purposes which assures its successful enforcement hereafter. Thus both on our land boundaries and in the interior of the country marked progress has been made during the past year.

CERTIFICATES OF RESIDENCE.

Since the removal of the Chinese records of the various collectors of internal revenue, many of which were imperfect or were carelessly kept, to the custody of the Bureau, those records have been classified and arranged in systematic order so as to be easily accessible. Their chief uses are to verify certificates of outgoing Chinese laborers, as also of those who are arrested for unlawful residence in the United States and thereafter offer certificates in evidence before United States commissioners or courts, to furnish the information for issuing duplicates of those shown to have been lost or destroyed, and to show that certain Chinese laborers have forfeited their right of residence, either through unlawful departure from this country, remaining absent beyond the time limited by law and treaty, or by death. Some counterfeits have by this means been detected, as well as a number of instances in which the genuine certificates have been altered to suit the requirements of the persons by whom they were unlawfully used.

The issuing of duplicates of alleged lost or destroyed certificates is a duty requiring very nice and discriminating judgment. Loss or destruction is often difficult to prove even in genuine cases, and an additional element of uncertainty in such cases arises from the practice of pawning these papers. Of course if the money they are pledged for is not paid, there is a market for and a consequent misuse of the forfeited certificate. Officers, therefore, visit pawnshops occasionally and secure a list of the pawned certificates, obtaining the information by representing to the lender that the value of his security will be destroyed if a duplicate is granted through misrepresentation. The following statement will show the number of certificates issued during the year on the application of owners of lost originals:

STATEMENT SHOWING DISPOSITION OF APPLICATIONS FOR DUPLICATE CERTIFICATES OF RESIDENCE, FOR THE YEAR ENDING JUNE 30, 1904.

Applications	476	
Cases reopened	1	
Total		477
Certificates issued	256	
Applications refused	59	
Applications withdrawn	2	
Original certificates found	7	
Applications struck out	54	
Number acted upon		378
Number pending		99

Certificates of residence known to have been pawned, 340, 4 of which were duplicates issued by Bureau.

Fifty-seven of these certificates have been secured by the Bureau and canceled; 283 were pawned in Portland, Oreg., and the 57 secured by the Bureau were pawned at Walla Walla, Wash.

It is presumed that hundreds of other certificates have been pawned throughout the United States, especially in the larger cities.

The large number of duplicates issued is doubtless attributable to the activity of the officers in charge of the various districts and their inspectors in ferreting out Chinese persons without the evidence of a right to be in the United States prescribed by law.

REGISTERED CHINESE LABORERS.

The following table shows the annual movement of lawfully resident Chinese laborers between the United States and China. This movement has but a slight bearing on the problem of Chinese exclusion, since it can not increase the total number of Chinese for whose residence in the United States provision is made both by the laws and the treaty. It is significant, however, as bearing upon the constant new claims made by alleged lawfully resident laborers, who represent that they have lost their certificates or were unable to register at the proper time by reason of sickness. Natural causes, of course, are steadily reducing the number of such Chinese, so that this class need occasion no anxiety.

ARRIVALS AND DEPARTURES OF REGISTERED CHINESE LABORERS DURING FISCAL YEAR ENDED JUNE 30, 1904.

Port of arrival or departure.	Departure of laborers.	Return of laborers.
San Francisco	313	649
Port Townsend, Wash	142	225
Portland, Oreg	2	.....
Honolulu, Hawaii	287	320
Malone, N. Y	19	116
Richford, Vt	11	62
Buffalo, N. Y	6	.....
Portal, N. Dak	10	20
Sumas, Wash	2	.....
Total	792	1,392

EXEMPT CLASSES.

The classes of Chinese aliens who are expressly exempt, both by law and treaty, from exclusion are merchants, teachers, students, travelers for curiosity or pleasure, and officials of the Chinese Government. Those of the last-mentioned class, officials, are admitted simply upon presentation of their credentials and identification as the person referred to therein. With them are admitted members of their families and their official and domestic servants. As to the entry of this class, therefore, there is little trouble, though to the occidental understanding it may seem that the interpretation of the term "official" is somewhat elastic, including as it does, for example, prominent residents of San Francisco under the description of "members of the advisory board of the consulate" at that port.

Such members of the mercantile class as claim the right to entry because of domicile in the United States, the Bureau can handle successfully, so that but few violations of law can occur as the result of such claims, and few such claimants, if entitled to admission, will be rejected.

With respect, however, to the other so-called "exempts," especially the merchants, the Bureau has no such assurance. They are required to present certificates of permission from their home Government to

come to the United States, in which is given a detailed statement in regard to their occupation in China. This statement the law requires a United States consul in China to investigate, and directs him to withhold his signature therefrom if he finds such statement untrue in any detail. If inquiry, however, establishes the truth of such statement in every particular, the consular officer making such inquiry is required to attach his signature and consular seal to the certificate, which then establishes prima facie the right of the holder to enter the United States. The natural and reasonable assumption would be that, after such precautions had been taken, the inspection of the exempts at the ports of arrival in this country would involve virtually nothing more than an identification of the holder of such a certificate with the person to whom it referred. Such is not the case, however. Frequently such Chinese persons contradict flatly the statements contained in their certificates, and still more frequently their manifest physical and financial condition is so at variance with the prosperous persons described in such certificates as to make it incredible that any investigation worthy of the name was made of their circumstances in China. This view is supported by frequent statements by such exempts, to the effect that they purchased the certificates at high prices from the subordinates of the functionaries whose duty it was respectively to issue them and to inquire as to the truth of their contents.

The situation thus presented is one that is equally unsatisfactory to administrative officers and to Chinese aliens of the exempt classes; to the former because the certificate, though correct in form, is no guaranty that the holder can be admitted without violation of law; to the latter because it does not assure him that he will not be turned back after his journey of thousands of miles, involving to him both serious loss of money and grievous disappointment.

The remedy for this evil is plain and was pointed out and urged as indispensable to good administration in the last annual report of the Bureau. An additional year of experience in the enforcement of the Chinese exclusion laws has only served to confirm the view then expressed on this subject. The work of consolidation of the service under one head has been carried a long way, and it is believed that these pages have fully vindicated the wisdom of such consolidation. It should, however, go one step further. It should include the work of investigation in China, now in the hands of the officers of the Department of State. This would at once relieve the latter of an incongruous duty and enable the Bureau to assign to the discharge thereof skilled and experienced officers under its control, accountable to it for neglect, carelessness, incompetency, or dishonesty, and subject to the penalty of summary discharge. Such officers being directly accountable to the Bureau charged with the general administration of these laws, and having no other duties to engage their time and care, could and would make such an effective inquiry into the merits of every "exempt" case that their signature would import that verity which is equally the security of this Government against violations of law and of the exempt Chinese against a denial of their treaty rights. So important is this matter that the Bureau again calls attention to it, and urges as indispensable to good administration that suitable legislation be enacted to accomplish the foregoing recommendation.

It does not wish to be understood that the result of such investigation in China would render inspection at the ports of arrival unneces-

sary in exempt cases. The law provides for such inspection; it should and will be made whatever means may be adopted for the performance of the duties now imposed upon United States consular and diplomatic officers in China. The effect, however, of the change recommended will be to greatly lessen the delay of investigation at the ports of the United States and diminish also the risk now incurred by Chinese persons who rely upon the certificates prescribed for members of the exempt classes as assurance that they will not be denied admission.

The following table will show the number of Chinese persons of the exempt classes, other than wives and children of merchants, who have been admitted during the year at the several ports of the United States:

EXEMPTS ADMITTED IN FISCAL YEAR 1904.

Port.	Admitted.	Rejected.	Pending.	Total.
Honolulu, Hawaii	69	1	.....	70
Malone, N. Y	57	17	3	77
New York, N. Y	15	1	.....	16
Portal, N. Dak	27	1	2	30
Portland, Oreg	5	3	1	9
Port Townsend, Wash	137	41	13	191
Richford, Vt	8	4	1	13
San Francisco, Cal	723	80	.....	803
Total	1,041	148	20	1,209

MINOR SONS OF MERCHANTS.

Closely allied in some respects to the subject of alleged Chinese natives is that of the minor sons of lawfully resident Chinese merchants. Their status is, like the native born, dependent upon proof of birth and parentage, with the added difficulty that the events upon which they claim admission occurred at some remote village in China, instead of in this country where it is always possible to make some kind of effective inquiry.

The admissibility of this class of Chinese persons is also dependent upon a judicial ruling—that of the Supreme Court in the Gue Lim case—and upon subsequent liberal constructions of the principle laid down therein to embrace cases presenting quite a different state of facts from those before the court in the leading case. The minor-son abuse, however, is not so serious as the native-born. It carries with it no incidental rights additional to that of admissibility during minority, although there is good reason to believe that most of the minor sons either become laborers at once or as soon as they reach their majority, which in most instances they confessedly will attain in a few months, and in many others they have apparently already passed. In the event, however, that they do become laborers they are subject to arrest and deportation unless they can impose upon the United States commissioners by representing themselves as lawfully resident laborers, presenting fraudulent certificates of residence or so-called merchants' certificates, or else by claiming, as they frequently do, birth in the United States. The facility with which Chinese persons can change their names, and the ease with which corroborating Chinese testimony can be secured, unite to make the task of deceiving judicial officers,

especially those who have never given their individual assent to the justice of the exclusion policy, an easy one. As such cases come before United States commissioners almost invariably, and as Congress saw fit to grant a right of appeal from that officer only to the Chinese prisoner, the necessity for a rather critical investigation of the minor-son cases will be obvious. This necessity, however, will become more pressing hereafter than it is now, for until the native-born resource proves unreliable as a means of securing admission, it will continue to be the most tempting of all claims for young Chinamen.

MINOR SONS OF MERCHANTS.

Port.	Admitted.	Rejected.	Pending.	Total.
Malone, N. Y	6			6
New York, N. Y	1			1
Portal, N. Dak	1	1		2
Portland, Oreg	4	2		6
Port Townsend, Wash	44	6	1	51
Richford, Vt	1			1
San Francisco, Cal	104	50		154
Total	161	59	1	221

The total of 221 applications as minor sons of merchants, as compared with 997 applications as natives, bears out the statement already made as to the present superior temptation offered to pose as members of the latter class.

There were admitted during the year 36 wives of merchants and 11 such claimants were rejected, making a total of 47 applicants of this class. In this number was 1 claiming to be the wife of a Chinese merchant to whom the Department refused admission, but whose release was subsequently secured by resort to the Federal court in the State of Washington.

ALLEGED NATIVES.

As intimated in the last annual report, by far the most serious feature of the administration of these laws is the application of Chinese youths who claim to have been born in the United States, and, therefore, to be citizens thereof under the decision of the Supreme Court in the Wong Kim Ark case. By this means there are many hundred of Chinese laborers in this country in addition to those who were here in 1892, when all lawful residents of this class were required to register on pain of arrest and deportation, and there are many more annually coming.

As already stated in this report, the situation has been somewhat amended, particularly on the Canadian boundary, as a result in part of the agreement with the Canadian Pacific Railway Company, given in full in the last annual report, and in part of the action of some of the courts, especially of the decision of the Supreme Court in the Sing Tuck cases. The practice reported last year by which counsel refused to submit the cases of such Chinese clients to administrative officers, taking such cases out of the custody of said officers immediately on arrival at ports of the United States and securing a judicial decision after full opportunity to coach their clients to enable the latter to testify

consistently with the preconcerted story of witnesses, has fortunately ceased. The Bureau officers at least have now the chance of preventing access to arriving Chinese passengers until the latter have on examination committed themselves to some detailed and circumstantial account of their claims. Unless these Chinese persons, therefore, have been drilled before their departure from China, as, unfortunately, it is believed is often done, the witnesses can now corroborate the claims only when such claims are true.

The inferior courts have, from time to time, rendered decisions, construing the Wong Kim Ark ruling so broadly as to bring within its scope all Chinese or other persons who can show that they were probably born in the United States, regardless of the subsequent residence of such persons. It is to be regretted that appeals were not taken, on behalf of the Government, from these decisions, since many Chinese laborers have thereby gained admission to this country and, what is far more serious, have acquired the status of citizens upon proof of circumstances widely variant from those which were the basis of the courts' opinion in the case of Wong Kim Ark.

As affording some practical idea of the extent of the evil, let us take the figures on this subject for the year to which this report refers—a year, be it remembered, in which the Bureau has met with unexampled success in excluding fraudulent Chinese claimants of citizenship by birth in the United States. As shown by the accompanying table there were actually admitted as American citizens, during the year, 438 Chinamen out of a total of 997 such applicants. While the Bureau has no figures for former years, to show the number of such Chinese crossing into the United States from Canada, there is reason to believe, from data that it has for ports of entry, that the aggregate of such arrivals this year was not larger than it has been for some years past. The last annual report shows that at the port of San Francisco there arrived during the fiscal year 1903, a total of 551 alleged native-born Chinamen, of whom 220 were allowed to land and 331 were deported. As will be seen from the accompanying table, the corresponding figures for San Francisco for this year are, admitted 294, deported, 221; total 515, or 36 less than last year. The same table shows that the total of such arrivals in the United States during the present fiscal year was 997—aproximately 1,000.

Long before the Wong Kim Ark decision, which was rendered in 1897, the inferior Federal courts had repeatedly announced the same view, especially in California, so that Chinese laborers have for years been aware that they could upon evidence of birth in this country not only secure admission to it despite the exclusion laws, but acquire American citizenship regardless of the naturalization laws. This information they were not slow to make use of. Consider, taking the present year as an average, that possibly 10,000 to 12,000 Chinese claiming citizenship by birth in this country have come to our ports in the last twelve years; consider as well that virtually they are all males and all born in the Pacific States; allow a fair proportion of Chinese births to be females; allow also for some mortality and such a number of absentees as will keep the stream flowing hereafter at about the rate mentioned—1,000 per annum; and bear in mind that these claimants are practically all at least 20 years of age, or born some time prior to 1884, what married female population of the Pacific States should there have been twenty years

ago? There were in those States in 1900, according to the census, 1,746, and of married and widowed in the entire continental portion of the United States, but 2,316. Chinese females were never numerous in the United States but were fewer in the earlier days of Chinese immigration than they are now. If all of the children born of Chinese couples here were sons, all returned to China, and all survived to return to this country, it is making a draft on its credulity that is hard to honor when this country is asked to believe that among its other staple products it was for years prior to, say, 1884, having Chinese male citizens born to it at the rate of 1,000 per annum.

The Director of the Census makes the following statement regarding the Chinese in the United States, based upon a comparison of the census returns with the report of the Bureau for 1903:

The Twelfth Census found in the United States 9,010 Chinese who claimed to have been born in this country. But of these 6,657 were males and only 2,353 were females. It is practically an invariable rule that the two sexes are born and survive to any given age in almost equal numbers. Thus, of the native whites in the United States, 50.7 per cent are male; of the native negroes, 49.6 per cent are male; of the native Indians 50.3 per cent are male. Therefore, figures showing that of the native Chinese 73.9 per cent were male aroused in the Bureau of the Census both surprise and incredulity.

A satisfactory explanation has been found in the last report of the Commissioner-General of Immigration. He shows that perhaps the most important way which Chinese immigrants have devised for evading the exclusion laws is for the foreigner to enter the country from Canada or Mexico, submit to arrest for violation of the law, and on trial to present Chinese testimony that he was born in the United States and thus by birthright a citizen to whom the exclusion law had no application. A special report on the subject to the Commissioner-General of Immigration in 1903 says: "By this method thousands of Chinese—upon the admission of the Chinese themselves—have been allowed not only to enter and remain in the United States, but declared to be native citizens thereof, each with a vote and qualified to participate in the political affairs of this country."

This is doubtless the true explanation of the incredible figures of the census. Many Chinese immigrants, knowing that it would be to their advantage to pass as native Americans, falsely reported themselves as born in the United States. To estimate how many did so is an interesting mathematical problem. It may be assumed that of the Chinese really born in the United States, only half were male and that, as the motive for falsehood applied equally to each sex, so the tendency was equally strong in males and females. There are four unknown quantities—the true number of Chinese immigrants in the United States, the per cent of females among them, the true number of Chinese born and living in the United States, and the per cent of Chinese immigrants who made false returns.

The results of the computation show that of 6,657 Chinese males reported as born in the United States, probably 2,231 were really born here and 4,426 were cases of false returns, and of 2,353 Chinese females reported as born in the United States, 2,231 were really born here and 122 were cases of false returns. The true number of Chinese immigrants in the United States was probably 85,401 instead of 80,853 as reported, the difference, 4,548 or 5.3 per cent of the immigrants, being due to false returns.

NUMBER OF CHINESE APPLYING FOR ADMISSION AS NATIVE-BORN CITIZENS.

Port.	Admitted.	Rejected.	Pending.
Port Townsend, Wash	45	4	9
Richford, Vt	3	56	.....
Portland, Oreg	8	4	.....
Portal, N. Dak	1	2	.....
Malone, N. Y	87	263	.....
San Francisco, Cal	294	221	.....
Total	438	550	

Grand total of applications, 997.

Now that the Supreme Court has, in the Sing Tuck cases, held that such Chinese applicants must submit their cases fully to the administrative officers as a preliminary to any intervention by the judicial branch of the Government, the Bureau feels hopeful of bringing this abuse within comparatively narrow bounds. It remains yet to be seen whether the lower courts, upon habeas corpus proceedings instituted after final executive decision, will at once require petitioners to conform to the spirit and design of the Sing Tuck decision, by declining to consider any evidence not passed upon by the executive branch of the Government. That they will ultimately do so can not be doubted.

TRANSITS.

The admission of Chinese persons in transit through the United States to foreign countries was, during the past year, confined principally to San Francisco, Cal., and New Orleans, La. At Port Townsend, Wash., 6 were admitted for that purpose. Those allowed to enter at New Orleans and various points on the Mexican border were returning to China and passed through San Francisco for that purpose, hence the statement of the outgoing and incoming transits at the last mentioned port will give an approximately accurate idea of the aggregate arrivals during the year of Chinese persons seeking merely to cross the territory of the United States:

CHINESE PASSING THROUGH PORT OF SAN FRANCISCO TO FOREIGN COUNTRIES DURING FISCAL YEAR 1904.

Outgoing to China:	
Admitted	707
Incoming from China:	
Admitted	2,080
Rejected	26
Total	2,106

Of these 2,080 who were allowed to enter this country from China, there is reason to believe that many manage to effect a surreptitious entry across the Mexican boundary. This subject was discussed at length in the last annual report.

The Bureau believes, in view of its carefully organized and capable service along the Mexican boundary, that it is becoming more difficult for Chinese persons to secure an unlawful residence in the United States by crossing from Mexico. As unlawful residents of each one of the districts within this country, which have already been described herein, are discovered and deported the temptation to smuggle will be diminished, and the officers will be able to give more of their attention to guarding the Mexican border.

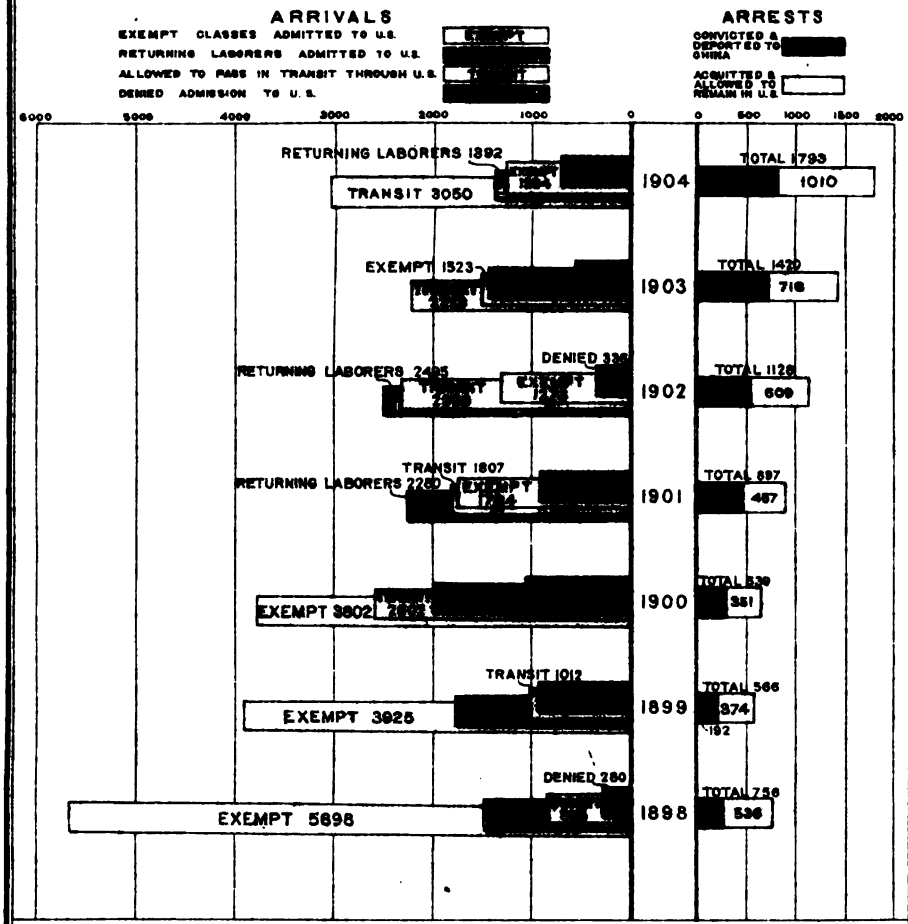
CHINESE SEAMEN.

This is a subject of so much importance that the Bureau does not feel that it can with propriety omit to again draw attention to it. The navigation and commercial interests of this country are admittedly so important and the treatment of seamen is so closely allied with the former that there is danger of assuming that the occupation in this

CHART 5.
FOR DESCRIPTION SEE PAGE 890

BUREAU OF IMMIGRATION.
F. P. SARGENT, Commissioner-General.

DISPOSITION OF
CHINESE ARRIVED AT UNITED STATES PORTS,
AND
CHINESE ARRESTED WITHIN THE UNITED STATES.
BECAUSE HERE IN VIOLATION OF LAW.



RATIO OF ADMISSIONS, OF CHINESE EXEMPT FROM THE EXCLUDING PROVISION OF THE CHINESE EXCLUSION LAWS, TO DEPORTATIONS.

	1898	1899	1900	1901	1902	1903	1904
ADMISSIONS.	RATIO 100	RATIO 100	RATIO 100	RATIO 100	RATIO 100	RATIO 100	RATIO 100
DEPORTATIONS.	TO 9	TO 29	TO 36	TO 76	TO 67	TO 83	TO 118

JULIUS BIEN & CO. LITH. N.Y.

UNIV. OF MICH.

capacity of Chinese laborers should render them immune from the exclusion laws. There is, however, neither authority of law nor sanction of practical common sense to sustain this view. On the contrary, their employment on American as well as foreign vessels coming to ports of the United States constitutes another of the many means of violating the law. For practical reasons, therefore, the Bureau adheres to the position taken by it in the last annual report, and deems the matter one of sufficient moment to repeat in full what was then said upon this subject:

It has been held by the Attorney-General that neither the provisions of the law in relation to the introduction of aliens under agreement to perform labor or service of any kind in the United States, nor the laws in relation to the exclusion of Chinese persons, conflict with the bringing of Chinese seamen to the country and their subsequent landing, to be sworn before a United States shipping commissioner, to become members of the crews of American vessels. This decision, in my judgment, discloses a serious defect which demands remedial legislation in the laws referred to. Particularly does this necessity arise as to the first-mentioned laws, since it can not be assumed that Congress intended to make the provisions for the protection of American labor any less effective as regards those employed as seamen than with respect to citizens of the country engaged in other pursuits involving physical labor.

I am aware that in many instances efforts have been made to interpolate into the various laws affecting the immigration of aliens to this country, an implied exception as regards seamen, upon the apparent theory that such exception is necessary to the growth of our mercantile marine. Usually, however, the sole obstacle to securing American seamen is that it costs more than alien labor in the same line. In such case it can not reasonably be contended that our merchant marine stands in this respect upon any other or different footing from that occupied by our numerous and meritorious industries, which would equally desire the privilege of securing labor where it can be obtained at the lowest cost.

I must therefore urgently recommend the enactment of additional legislation to prevent the introduction through the ports of the United States, for service as seamen on board of vessels of American registry, of preengaged aliens, and of an amendment to the laws in relation to the exclusion of Chinese persons and persons of Chinese descent that will prohibit the landing of such persons temporarily, to be taken before a shipping commissioner and made members of a crew of a ship of domestic registry.

CHINESE FOUND UNLAWFULLY IN THE UNITED STATES.

During the year the various officers placed in charge of the districts, to which reference has already been made, have gradually been familiarizing themselves with the requirements of their positions, and, as a result, the Bureau can report that much satisfactory work has been done in the way of locating both the lawful and unlawful Chinese residents within those districts. As a result, many hundreds of investigations touching the rights of Chinese applicants to admission at ports of entry have been made promptly and satisfactorily, thus expediting the landing of those entitled thereto, or clearly showing the fraudulent nature of those claims and hastening the return to their own country of Chinese persons making false claims.

Incidental to this work, the inspectors are gradually compiling complete lists of all Chinese merchants and laborers in this country and securing the arrest and deportation of such as have effected an entrance in violation of law, thus narrowing the chances alike of continued unlawful residence in this country and of unjust exclusion or expulsion therefrom.

The following table is presented as an approximately correct report of the disposal during the year of Chinese who were arrested by the officers. As the information upon this subject is often difficult and

sometimes impracticable to obtain from other than the officers of the courts, some allowance must be made for possible errors, except as to the number of arrests:

ACTION TAKEN IN CASES OF CHINESE ARRESTED WITHIN THE UNITED STATES BECAUSE HERE IN VIOLATION OF LAW, FISCAL YEAR ENDED JUNE 30, 1904.

BEFORE UNITED STATES COMMISSIONERS.

Until order of deportation or discharge:	Arrests	1,721
	Pending from previous year	268
	Total cases before commissioners	1,989
	Bailed on personal recognizance	4
	Bailed on bond	314
	Total bailed before hearing	318
	Died	10
	Escaped	4
	Forfeited bail	1
	Discharged	920
	Pending	92
	Ordered deported	962
	Total cases	1,989

Further action on cases ordered deported by commissioners.

After order of deportation:	Ordered deported this year	962
	Awaiting deportation or appeal from previous year	62
	Total	1,024
	Died	2
	Escaped	0
	Deported	642
	Awaiting deportation or appeal to United States courts	50
	Appealed to United States courts	330
	Total cases	1,024

BEFORE UNITED STATES COURTS.

Until order of deportation or discharge.	Appealed to United States courts this year	330
	Pending from previous year	39
	Total cases before United States courts	369
	Bailed on notice of appeal to United States courts	78
	Died	2
	Escaped	0
	Forfeited bail	1
	Discharged	90
	Pending	99
	Ordered deported	177
	Total cases	369

Further action on cases ordered deported by United States courts.

After order of deportation.	Ordered deported this year	177
	Awaiting deportation from previous year	16
	Total cases	193
	Died	1
	Escaped	0
	Deported	141
	Awaiting deportation	22
	Appealed to higher courts	29
	Total cases	193

RECAPITULATION.

Died, escaped, and forfeited bail	21
Discharged	1,010
Deported	783
Pending (including those awaiting deportation or appeal)	292
Total cases	2,106

It may safely be predicted that, within the next year or two, under this system the number of unlawful residents, other than those admitted by judicial officers, either as merchants or natives, will be small.

Some progress has been made also in punishing those who engage in the smuggling of Chinese into the United States although, as the following shows, the courts do not seem to regard the offense as one of sufficient gravity to warrant the imposition of exemplary penalties.

CONVICTIONS OF SMUGGLERS.

Where convicted.	Name of convict and punishment.
Buffalo	"Kid" West, jail 2 years, fine $500. Mrs. Simpson, jail 6 months, fine $250. Geo. E. Jackson, jail 8 months, fine $1,000. Geo. S. Hills, jail 6 months, fine $250.
Port Townsend	Harry Thomas, jail 1 year, fine $1,000. Fred Anderson, jail 1 year, fine $1,000. Frank Wilker and Thomas Aria, convicted—not sentenced.
Detroit, Mich	W. M. Crawford, jail 2½ months. Lorne Stoneberg, jail 1 day, fine $100. Geo. Copp, jail 1 day, fine $100.

The Bureau is convinced that the business of smuggling is the special vocation of many so-called merchants, and that much could be accomplished in the way of putting an end to it, in those few instances in which it has been possible to obtain evidence of their skillful and persistent disregard of the law, by punishing those found guilty, and their confederates, with the extreme penalty of the law.

VISITORS TO EXPOSITIONS.

As the last act in relation to the exclusion of Chinese, approved April 29, 1902, made general provision for the admission of Chinese persons to take part in any future exposition authorized by Congress under suitable regulations to insure their departure, it became necessary to adopt such general rules at once, as the Louisiana Purchase Exposition was impending and the Chinese Empire, with other nations, had been invited to participate therein.

Inasmuch as the exempt classes were already entitled both by the laws and the treaty, upon compliance with certain conditions named therein, to entry into the United States at any time, it must be obvious that the regulations mentioned could only deal with those classes who were not admissible. Since merchants, teachers, students, officials, and travelers for curiosity or pleasure—a class that could conveniently and appropriately include all visitors to the exposition not covered by merchant exhibitors—could already enter, it was not necessary, nor obviously was it the intent of Congress, to restrict their rights by authorizing departmental regulations to insure their departure after the close of the exposition. In the light of past experience, however, when Congress removed the ban from the classes of Chinese expressly excluded in the interest of Chinese participation in other expositions, it was compelled to recognize and provide against the continued residence in this country of those admitted for a specific occasion after the occasion had passed, as well as against the admission of those who used the occasion of a temporary and special suspension of the law as a pretext to effect a landing in this country, trusting to their ingenuity and their funds to secure for them a permanent residence thereafter.

The regulations as originally adopted, therefore, contained no reference to merchants, but were in other respects similar to those finally adopted in July, 1903, given below in full.

RULE 44. Every Chinese person seeking admission to the United States under the provisions of section 3 of the act approved April 29, 1902, for the purpose of taking part in any fair or exhibition authorized by act of Congress, shall, as a condition precedent to such admission, comply with the following conditions, and officers charged with the enforcement of the Chinese exclusion laws shall likewise, so far as action on their part is required, conform thereto. This rule takes the place of Treasury Department Circular No. 5, Bureau of Immigration, dated January 7, 1903.

(*a*) Every such person shall furnish to the officer in charge of the enforcement of the Chinese exclusion laws at the port of entry satisfactory evidence that he is a holder of a privilege from the officers of said exposition or an employee of a holder of such a privilege, engaged to take part therein.

(*b*) He shall furnish to the said officer in charge at the port of entry a photograph of himself, in triplicate, and shall submit to such examination as may be deemed necessary to insure his indentification.

(*c*) He shall, if admitted, proceed immediately, by direct and continuous travel, to the said exposition, wherever located; remain there during his stay in the United States; engage while there solely in the occupation for which he was admitted; return within thirty days after the close of said exposition by direct and continuous travel to the port at which he was admitted and thence depart, by the first vessel sailing thereafter, to China or to the country of which he is a citizen or subject.

(*d*) He shall furnish to the United States officer in charge, by whom he is admitted, a bond of $500, with a responsible bonding and surety company as surety, conditioned for his immediate departure to said exposition grounds, his constant attendance and employment at said grounds, and his departure from the United States, all in accordance with the next preceding regulation.

(*e*) The requirements of the next preceding paragraph (*d*), as well as of paragraphs (*i*) and (*j*) hereinafter, shall not apply to Chinese merchants seeking admission to make a display of their goods at such exposition, who shall be permitted to land upon presentation of a certificate to the foregoing effect, issued by their Government and viséed by the United States consular or diplomatic officer at the port of departure.

(*f*) The following form of record shall be kept in duplicate by the officer in charge at the port of admission of all Chinese persons admitted in accordance with these regulations, the original to be kept on file at said port and the duplicate to be forwarded to the Bureau of Immigration, Department of Commerce and Labor.

[Form of Chinese record.]

Chinese employees' record of admission.

DEPARTMENT OF COMMERCE AND LABOR, BUREAU OF IMMIGRATION.	No. —. U. S. IMMIGRATION SERVICE, *Port of* ——— ———, ——— ———.
File No. — of Record ———. Name ——— ———. Native of ———. Employed by ——— ———, of ———, an exhibitor at the ———. When admitted, ———, ———.	This is to certify, that ——— ———, a native of ———, who is duly accredited as an employee of ——— ———, of ———, an exhibitor at the ———, U. S. A., has been permitted to enter the United States as such employee (or exhibitor) in pursuance of an act of Congress approved April 29, 1902. (Name of officer) ——— ———, (Title of officer) ———.
(Here attach photograph to both duplicate and original.)	(Duplicate to be forwarded to Commissioner-General of Immigration.)

(*g*) An officer, or officers if necessary, will be designated to remain at the grounds of said exposition, whose duty it shall be to keep, in duplicate, a record, in the following form (unless hereafter modified), of every Chinese person admitted under these rules and regulations to take part in said exposition.

[Form of report.]

File No., ——.	Name of employee or exhibitor, ——— ———. Sex, ———. Age, ———. Name of exhibitor by whom employed, ——— ———. Character of work to be done in connection with exhibition, ———. What hours and how many per diem employed, ———. Time of arrival at exhibition grounds, ———.
(Place to attach photograph.)	Time of departure from exhibition grounds, ———. ——— ———. (Signature of Chinese employee or exhibitor.) ——— ———. (Signature of officer or officers.) (Duplicate to be forwarded to Commissioner-General of Immigration.)

Said officer or officers shall also have such supervision over every such Chinese person and such duties in relation to them as are authorized by law and these rules and regulations and instructions issued thereunder.

(*h*) That one of the photographs provided for in paragraph (*b*) hereinbefore shall be sent by the officer at the port of arrival at which any such Chinese person is admitted to the officer or officers provided for in paragraph (*g*) of these regulations, who shall attach said photograph to the form of report prescribed, using it as a means of identification of the person whose portrait it is.

(*i*) Should any such Chinese person desire to leave the grounds of said exposition temporarily, he must apply to the officer provided for in paragraph (*g*) hereof, who may issue to him a dated card, giving his name and other particulars for his identification, and stating that he is permitted to absent himself from said grounds not longer than forty-eight hours from the date of said card, which shall, upon his return within the specified time, be delivered to said officer and canceled.

(*j*) All Chinese persons holding such cards who fail to return within the specified period shall be deemed to be unlawfully within the United States, and the bonds given on their behalf shall be forfeited and such person shall be deported. The officer designated to issue said cards shall promptly notify the Commissioner-General of Immigration of the absence, in violation of these regulations, of any Chinese person, in order that the penalty of the bond given in his behalf shall be collected and such Chinese person deported.

(*k*) Immediately after the expiration of the thirty days following the close of said exposition, the officers at the ports of arrival at which any such Chinese person is admitted are directed to report to the Commissioner-General of Immigration the total number, together with names, etc., of the Chinese persons who were admitted at their ports, respectively, for the purpose stated, and the numbers and names of those who have been properly identified and permitted to depart in accordance with these regulations.

It will seen that, briefly stated, the regulations provided simply for the identification of those Chinese applicants, as to whom the law of exclusion was temporarily suspended, as entitled to the benefit of such suspension, the close surveillance of them while in this country to avoid substitution, and their certain departure when the occasion for their presence had ceased.

When the regulations as originally prepared were issued they immediately became the target for violent and continuous assaults. All sorts of palpably unfounded statements were made as to their meaning. It was charged that they violated the laws of international hospitality; that they were an affront to the Chinese Empire and a denial to her people of the opportunity to act upon an invitation formally given on behalf of the Government; that they constituted another insult to the long list already offered to China; that the people of that power resented it and would refrain from participating in our expositions, thus threatening the promising and much-desired commerce of China with the United States by probable diversion to England or some other rival of this country in commercial supremacy. The authors of this assault resorted to the press, appealed to the trades associations and other commercial bodies of our great cities, holding up to the affrighted gaze of business men alluring views of the vast value of Chinese commerce to other countries, which would certainly take it from us if these regulations were not amended.

As a result of this clamor, the regulations were finally amended by exempting merchant exhibitors from conditions prescribed therein, although it was pointed out that such change was wholly futile, as merchants were already entitled by law to enter and the regulations did not therefore affect them. This concession, however, only partially quieted the outcry. An assiduous propaganda of resistance continued throughout various business organizations, and finally the pages of a leading monthly publication were used to show that the regulations were open to all the absurd objections raised to them, that executive officers were displaying a wholly unnecessary and unjustifiable hostility and prejudice to the Chinese and a disregard of the commonest principles of natural justice in administering the Chinese exclusion laws, not only in the regulations under consideration, but in all other of their official acts and rules as well, claiming finally that no Chinese person could visit the expositions in this country without giving bonds and submitting to every species of personal affront and humiliation. As was natural, such an article, appearing in a periodical of high standing and given the weight of authority by the signature of a prominent Chinese official, himself then the honored guest of this country, was accepted as ample proof of the alleged misconduct of public officials, and was sufficient, as one of the many protestants wrote, to bring "the blush of shame" to the cheeks of those who easily believe that executive officers are not controlled by the considerations that always influence honest men. So many protests against the official incompetence and partiality charged in this article reached the Bureau that a general reply was made and has been sent out since as an answer to each of such communications.

In this reply the scope of the regulations in question was pointed out, and the protestants were shown that merchants and visitors to the expositions did not come within the terms of said regulations, and are as untrammeled as regards their rights as before the issuance thereof. It was also shown that the same objections urged to other regulations and to the conduct of executive officers had been presented with much vigor and earnestness before the Supreme Court in the Sing Tuck case, but that the highest judicial authority of the land had announced its inability to detect any such sinister design, either in the rules or in the action of officials themselves, in the cases at bar, as announced by

counsel. This reply seems, for the time being, to have reestablished the thus easily shaken confidence of the public in the probity and capacity of the Bureau and its officers.

APPEALS TO THE DEPARTMENT.

It seems not out of place to include in this report a statement showing the number of appeals taken from the decisions of officers at ports of entry refusing Chinese applicants permission to land. When due consideration is given to the fact that these cases have already been rejected by experienced officers, with the advantage of a personal inspection, both of the applicant and of the witnesses, and that, they are appeals from such rejections, it must be conceded that, if the mere relative proportion of the sustained and dismissed appeals display error, that error is rather toward leniency than undue harshness.

DISPOSITION OF CHINESE CASES APPEALED TO DEPARTMENT, BY PORTS, FISCAL YEAR 1904.

Port.	Sustained.	Dismissed.	Total cases appealed.
San Francisco, Cal	63	104	167
Port Townsend, Wash	10	24	34
Portland, Oreg		1	1
New York, N. Y		2	2
Richford, Vt	3	3	6
Malone, N. Y	17	40	57
Portal, N. Dak	8	6	14
Sumas, Wash		1	1
Total	101	181	282

NEW CHINESE LEGISLATION.

During the last session of Congress, some doubt arising as to what would be the effect upon existing legislation of the expiration of the convention of December 8, 1894, notice of the termination of which was given by the Chinese Government in January, in view of certain words of limitation in the act of April 29, 1902, those words were repealed.

If a new treaty is negotiated during the coming year, as seems now not improbable, the language thereof should be in such exact conformity with the law as will leave no room for doubt or question as to whether there is such an agreement. This recommendation is made after experience of the embarrassments of administration arising from slight verbal variations between the existing treaty and the laws.

As regards the nature of amendatory or new legislation, the Bureau is convinced that the most important is, as has already been stated in these pages, a provision for the discharge of the duties now imposed upon United States consular and diplomatic officers in China by duly accredited officers of the Bureau, stationed, by treaty agreement if practicable, in that country for that purpose. In general, the terms of a bill (H. R. 15167), introduced in the House of Representatives April 16, 1904, aptly express the opinions of the Bureau as to the important features of new legislation essential to the proper enforcement of the policy of Chinese exclusion.

That measure was prepared by the Attorney-General of the United States, and was the result of his experience of the difficulties encounteren in representing the Government effectively in those cases brought before the courts. It clearly defines those whom the laws absolutely exclude, as distinguished from those who are entitled to admission upon compliance with the conditions prescribed; it defines the meaning of the terms "Chinese persons" and "persons of Chinese descent," to reconcile the conflicting views of the courts; it defines "laborers" in accordance with the expressed understanding of the negotiators of the treaty of 1880 and the decisions on this point of the courts; it gives the Government the same right of appeal from the adverse decisions of a United States commissioner as is now given a Chinese prisoner tried before him as to such prisoner's right to reside in this country, and it grants a certain discretionary executive power to relax the laws as to Chinese resident in this country prior to 1894 or who have rendered the Government meritorious service.

Some of these provisions the Bureau had already recommended in former reports.

There are others, however, which it thinks of importance. In its judgment the right of release on bail should be restricted, so as to prevent its abuse by substitution, escapes, and unnecessary and repeated postponements of trial, and both commissioners and courts should be forbidden to release any Chinese prisoner on a personal recognizance. In the State of Vermont there are now at large 33 Chinese persons, arrested in 1901 for being unlawfully in this country. These prisoners were released upon the personal recognizance of their counsel, and since their release have never appeared for trial, and doubtless never will, voluntarily or by effort of said counsel, do so.

The Bureau is of opinion also that Congress should define specifically the status of those who enter this country as members of the exempt classes and thereafter become laborers. It would be well also to make compulsory provisions for the registration of all Chinese resident lawfully in the United States, and to declare certificates of such new registration the sole evidence of their right to be in this country.

There should also be furnished to all Chinese merchants, teachers, students, and travelers cards of identification so prepared as to avoid as far as possible the risk of successful counterfeiting, in order that such persons may freely travel without risk of unnecessary detention or arrest. There can, it is believed, be no reasonable doubt that such remedial legislation will be as much a defense to those Chinese who are entitled to come and reside in the United States as it will be to the Government against those whom it was the avowed purpose and desire not only of this country, but of China also, to keep out of the United States.

To these recommendations should be added the one described in treating the subject of Chinese seamen who are now brought to this country and placed on board of vessels registered under the laws of the United States.

PORT OF SAN FRANCISCO.

As the principal port of entry for Chinese, San Francisco represents so much of the entire business of admissions and exclusions under the law that it is deemed important to insert the following tabulated statements in relation thereto:

Disposition of arrivals.	First six months.	Last six months.
DISPOSITION BY IMMIGRATION AUTHORITIES.		
Landed by—		
San Francisco office	135	150
Department	2	1
Total	137	151
Denied admission	193	95
Total	330	246
Of those denied admission there were—		
Deported without habeas corpus proceedings	3	11
Carried to courts on habeas corpus proceedings	190	80
Pending	.....	4
DISPOSITION BY COURTS.		
Landed	113	57
Denied	77	23

REPORT OF CHINESE BUSINESS TRANSACTED AT THE PORT OF SAN FRANCISCO, CAL., DURING THE FISCAL YEAR ENDED JUNE 30, 1904.

Month.	Miscellaneous.		Merchants.		Wives of merchants.		Sons of merchants.		Daughters of merchants.		Natives.	
	Landed.	Denied.	Landed.	Denied.	Landed.	Denied.	Landed.	Denied.	Landed.	Denied.	Landed.	Denied.
1903.												
July	5	1	35	4	2	.....	19	7	.....	.....	20	35
August	.....	1	36	6	3	.....	14	2	2	.....	31	24
September	7	.....	23	6	1	.....	9	9	2	.....	36	19
October	6	.....	29	2	2	.....	11	8	.....	.....	28	20
November	4	.....	28	2	1	2	9	2	.....	1	39	22
December	.....	.....	35	2	2	.....	11	6	.....	.....	30	10
1904.												
January	7	2	15	3	2	.....	7	1	1	.....	13	3
February	4	.....	23	3	3	.....	5	2	2	.....	9	13
March	10	2	9	3	.....	.....	4	3	.....	.....	3	13
April	41	.....	23	1	.....	.....	6	2	.....	.....	8	22
May	19	.....	36	.....	1	.....	2	1	.....	.....	28	6
June	6	1	41	3	1	.....	7	7	.....	.....	49	34
Total	[a] 109	7	333	35	18	2	104	50	7	1	294	221

Month.	Under section 6.		Laborers with return certificates.		Sex of applicants.				Disposition of cases.		Total cases disposed of.
					Landed.		Denied.				
	Landed.	Denied.	Landed.	Denied.	Male.	Female.	Male.	Female.	Landed.	Denied.	
1903.											
July	18	.....	46	5	138	7	50	2	145	52	197
August	14	2	65	4	160	5	37	2	165	39	204
September	13	2	65	14	149	7	49	1	156	50	206
October	27	3	110	18	210	3	50	1	213	51	264
November	17	7	95	17	190	3	51	2	193	53	246
December	30	2	107	8	210	5	28	.....	215	28	243
1904.											
January	26	4	33	1	100	4	12	2	104	14	118
February	23	4	30	.....	90	9	22	.....	99	22	121
March	27	6	10	.....	61	2	27	.....	63	27	90
April	20	1	89	6	136	1	31	1	137	32	169
May	55	6	23	4	160	4	17	.....	164	17	181
June	11	1	33	11	143	5	56	1	148	57	205
Total	281	38	656	88	1,747	55	430	12	1,802	442	2,244

[a] Including 58 for St. Louis Exposition and 12 Government officers.

REPORT OF CHINESE BUSINESS TRANSACTED AT THE PORT OF SAN FRANCISCO, CAL., DURING THE FISCAL YEAR ENDED JUNE 30, 1904.

Month.	Seeking admission.	Departing.			Refused admission.		Arrived in transit for transfer by steamship.		
		Males.	Females.	Total.	Returned to China	Deported.	Permitted.	Denied.	Total.
1903.									
July	217	385	22	407	14	18	173	.....	173
August	135	262	9	271	16	69	99	18	117
September	284	675	22	697	19	20	54	.....	54
October	281	593	22	615	31	39	144	.....	144
November	228	519	15	534	18	91	370	.....	370
December	162	1,216	29	1,245	26	40	467	.....	467
1904.									
January	112	288	3	291	8	17	74	.....	74
February	116	242	6	248	10	72	71	.....	71
March	45	189	21	210	10	15	17	.....	17
April	165	213	6	219	3	49	158	1	159
May	410	137	13	150	6	22	204	.....	204
June	138	206	21	227	7	87	84	.....	84
Total	2,298	4,925	189	5,114	168	584	1,915	19	1,934

Month.	Arrived in transit to depart overland.			Arrived in transit by steamship for China; transferred.	Arrived in transit overland for China.
	Permitted.	Denied.	Total.		
1903.					
July	25	.....	25	40	18
August	1	7	8	14	14
September	.....	.....	.....	48	28
October	16	.....	16	45	13
November	69	.....	69	62	14
December	44	.....	44	69	26
1904.					
January	.....	.....	.....	26	12
February	.....	.....	.....	27	25
March	.....	.....	.....	24	22
April	10	.....	10	45	22
May	.....	.....	.....	28	26
June	.....	.....	.....	20	89
Total	165	7	172	448	259

SUMMARY.

Departing, voluntarily	5,114
Refused admission, returned to China	168
Deported	534
Remanded	87
Total departing and returned to China	5,903
Total landed	1,802
Excess departures over admissions	4,101

During the fiscal year 184 cases were taken out on writs of habeas corpus, 75 of which were ordered discharged, 100 ordered remanded, and 9 are pending.

SUMMARY OF CHINESE CASES.

The annexed table is a compilation of the data received from the various ports of entry, showing the total number of admissions of Chinese persons into the United States:

CHINESE SEEKING ADMISSION TO, AND THE PRIVILEGE OF TRANSIT THROUGH, THE UNITED STATES, FISCAL YEAR 1904.

Class.	Number Chinese admitted by—			Number rejections by—			Number cases pending before—			Number cases finally disposed of.	
	Inspector.	Department.	Courts.	Inspector.	Department.	Courts.	Inspector.	Department.	Courts.	Admitted.	Deported.
BORDER CASES.											
Native born	9	2	130	397	2	280	.....	.....	.....	141	287
Returning laborers	186	12	.....	86	21	1	5	2	.....	198	67
Returning merchants	74	5	3	30	10	.....	11	2	.....	82	15
Merchants' wives	3	.....	.....	.....	.....	.....	.....	.....	.....	3	.....
Merchants' children	8	.....	.....	1	.....	.....	.....	.....	.....	8	1
Other exempt classes	35	1	.....	2	.....	.....	1	.....	.....	36	1
Total, all classes	315	20	133	516	33	281	17	4	.....	468	371
In transit	272	.....	.....	5	.....	.....	2	.....	.....	272	5
SEAPORT CASES.											
Native born	382	8	85	276	24	65	115	43	16	475	64
Returning laborers	1,175	18	1	137	38	.....	50	15	.....	1,194	104
Returning merchants	491	16	.....	96	22	.....	55	2	.....	507	80
Merchants' wives	30	3	.....	7	3	.....	3	1	.....	33	1
Merchants' children	167	5	.....	64	33	2	27	3	.....	172	51
Other exempt classes	413	28	2	56	14	.....	138	6	.....	448	34
Total, all classes	2,658	78	88	636	134	67	388	70	16	2,824	334
In transit	2,778	.....	.....	26	.....	.....	.....	.....	.....	2,778	26
TOTAL.											
Native born	391	10	215	673	26	345	115	43	16	616	351
Returning laborers	1,361	30	1	223	59	1	55	17	.....	1,392	171
Returning merchants	565	21	3	126	32	.....	66	4	.....	589	95
Merchants' wives	33	3	.....	7	3	.....	3	1	.....	36	1
Merchants' children	175	5	.....	65	33	2	27	3	.....	180	52
Other exempt classes	448	29	2	58	14	.....	139	6	.....	479	35
Total, all classes	2,973	98	221	1,152	167	348	405	14	16	3,292	705
In transit	3,050	.....	.....	31	.....	.....	.....	.....	.....	3,050	31

CHARTS.

Accompanying the report the Bureau presents charts which contain in graphic form information in regard to immigration, admissions and deportations of Chinese, and results obtained by an investigation of the penal, reformatory, and charitable institutions of the United States.

CHART 1 (following page 740).—IMMIGRANTS DEBARRED AND RETURNED.

This chart shows the proportion of aliens refused admission, and the proportion of those admitted that afterwards became public charges and were returned to the countries whence they came under the provisions of the immigration laws. It is interesting to note the balance between the debarred and the returned, as shown by the uniformity of divergence and convergence of the wave lines representing these two classes.

Although each year, as shown by this chart, several hundred aliens have been returned to the countries whence they came because they were public charges, and several thousand others were originally refused admission to the United States because likely to become public charges, it is pointed out that in the recent investigation of the charitable institutions of the country conducted by this Bureau about 30,000 alien paupers, including insane, were actually found in the public institutions, and another 5,000 in the charitable institutions under private control. In addition thereto there were about 10,000 alien criminals found in the penal institutions,

making altogether a grand total of 45,000, 40,000 of whom are supported exclusively at public expense. In addition thereto there are probably 65,000 naturalized foreigners in these institutions.

CHART 2 (following page 744).—RACES OF IMMIGRANTS.

This chart shows, approximately, areas of racial grand divisions of Europe, together with number and ethnic character of aliens arriving from each European country. A comparison of the number of aliens of the different racial subdivisions and grand divisions for the fiscal year 1904 is also shown.

CHART 3 (following page 760).—PROPORTION OF IMMIGRATION TO EACH STATE.

This chart is designed to show graphically the proportion of immigration to the different States and sections of the country for the fiscal year 1904. The enormous proportion going to New York, Pennsylvania, and the North Atlantic section is prominently shown.

CHART 4 (following page 786).—RATIO OF CRIMINALS IN PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS.

This chart shows the ratio of criminality of the four principal grand divisions, viz: Keltic, Teutonic, Slavic, and Iberic. [See pages 891 and 892 for race classification.] It is shown that of all the aliens of the Keltic grand division detained in the various institutions of the United States 15 per cent are in penal institutions, of the Teutonic grand division 17 per cent, of the Slavic 25 per cent, and of the Iberic 39 per cent. [See table on page 784.]

Thus the Iberic division leads in criminality, with Slavic second, Teutonic third, and Keltic fourth. The Iberic ratio of 39 per cent is thought not to show the true condition, as it was found impracticable in the compilation of these figures to exclude the Italian (north) who belong with the Keltic grand division from the Italian (south) who belong with the Iberic grand division. In this connection it is pointed out that there were 809 aliens confined in the institutions of the United States proper for murder, 253 of whom were Italians; there were 373 confined for attempts to kill, 139 of whom were Italians. This is a ratio of one Italian to two aliens of all the other races.

From this diagram it will be seen that the racial divisions that have the largest percentages of recent arrivals detained are the ones that have the highest ratio of criminality.

CHART 5 (following page 878).—CHINESE.

This chart shows the disposition of cases of Chinese arrived at United States ports and those arrested within the United States because here in violation of law.

The class of admissions shown under the head of "exempt" represents all alien Chinese allowed to enter the United States, except transits, and laborers who resided here at the time of the passage of the Chinese exclusion act who were properly registered at that time and are now returning to the United States after a temporary absence. This class (exempt) therefore represents the Chinese admissions proper.

All Chinese deported to China because attempting to enter the United States unlawfully or because unlawfully residing here are shown under the heads "Denied admission to United States and deported to China" and "Convicted and deported to China." The sum of these two classes therefore represents all Chinese sent back to China by United States authorities.

A comparison of the admissions as above with the deportations since 1898 shows a progressive efficiency in the administration of the Chinese exclusion laws, as follows: In 1898 there were 9 deportations to every 100 admissions; in 1899 the ratio increased to 29 to 100; in 1900 it was 36 to 100; in 1901, 76 to 100; in 1902, 67 to 100; in 1903, 83 to 100, and in the year 1904 the number of deportations was actually larger than the admissions, being in the ratio of 118 deportations to 100 admissions.

CHART 6.—ALIENS DETAINED IN PENAL, REFORMATORY, AND CHARITABLE INSTITUTIONS OF EACH STATE.

This chart gives the following information with reference to alien inmates of penal, reformatory, and charitable institutions of each State: Sex, whether under or over 21 years of age; probable period of detention; the length of time in the United

States, and whether confined in penal, insane, or other charitable institutions; whether said institutions are under private, county and municipal, State, or Federal jurisdiction; and in the case of criminals, whether offenses are grave or minor. Thus a brief record of each State is shown, from which the approximate cost of maintenance of aliens in any State can be estimated, and the conditions in any State can be readily compared with those in another.

Attention is invited to the fact that the States in which are located the large cities have the largest proportions of aliens detained in their institutions. For instance, out of 44,985 aliens in all the institutions of the United States, 12,440, or 28 per cent are in the State of New York; 5,601, or 12½ per cent, in Pennsylvania; 5,490, or 12 per cent, in Massachusetts; and 3,359, or 7½ per cent, in Illinois, making a total of 26,890 in the four States mentioned, which is 60 per cent of the entire number in the United States.

The enormous proportion of aliens taken care of in the insane and charitable institutions of the United States is shown by the fact that the proportion of alien population to citizens in the whole United States is 1 to 75, while within the insane and charitable institutions the proportion is 1 alien to 6 United States citizens. The proportion in penal institutions has not yet been determined, but is undoubtedly even greater than 1 to 6. More detailed information by racial divisions will be found in the tables elsewhere in this report.

It was found impracticable to separate reformatory from other penal institutions. Therefore both have been included under the head of "penal." Juvenile delinquents have been here included, the number of which is approximately represented by the number of aliens in penal institutions under 21 years of age.

Institutions for criminal insane are placed with penal institutions. Inmates of all other asylums for the insane are placed under the head of institutions for the insane.

Inmates of almshouses, juvenile asylums, homes, institutions for the feeble-minded, and other charitable institutions (except institutions for the insane) are placed under the head of charitable institutions.

With regard to inmates of penal institutions the period of "probable detention" is definite; with regard to inmates of charitable institutions and institutions for the insane the period of probable detention is approximate.

Crimes have been divided into two classes, viz, grave and minor. Under the head of grave crimes have been included murders, robberies, burglaries, and other offenses usually enumerated with the serious crimes. The misdemeanors or lesser offenses, including incorrigibility, are classed under the head of "minor" offenses.

Information as to the length of time in the United States was not obtainable from all aliens. Percentages under the head of "Years in the United States" therefore represent averages based upon answers of aliens from whom this information could be obtained.

CHART 7.—RACES, OCCUPATIONS, AND INCREASE AND DECREASE OF IMMIGRATION BY STATES (DESTINATION).

INCREASE AND DECREASE.

Diagrams shown on this map indicating the yearly increase and decrease in each State's proportion of the entire immigration to the United States prominently show progressively increasing proportions of immigrants going to the group of States consisting of Pennsylvania, Ohio, and West Virginia, while the percentage for the neighboring State of New York has gradually decreased from 42 per cent in 1892 to 32 per cent in 1904. They also show the far Western States are attracting increasing proportions and the Middle West and South decreasing percentages year by year. Thus a considerable change is shown to be taking place with regard to the distribution of immigrants in these different sections of the country.

It is of interest to note in this connection the uniformlty of the fluctuation of immigration to the New England States, each of them having attracted increasing proportions from 1892 to 1895 or 1896, with decreased percentages since (leaving out of consideration the increase for Vermont during the past three or four years).

RACE CLASSIFICATION.

More than 95 per cent of the immigration to this country comes from Europe. This European immigration may be separated by race into well-recognized divisions, which conform more or less to geographical location. With the assistance of Prof. Otis T. Mason, Curator of Ethnology, National Museum, most of these different races

or peoples, or more properly subdivisions of race, coming from Europe have been grouped into four grand divisions, as follows:

Teutonic division, from northern Europe: German, Scandinavian, English, Dutch, Flemish, and Finnish.

Iberic division, from southern Europe: South Italian, Greek, Portuguese, and Spanish; also Syrian from Turkey in Asia.

Celtic division, from western Europe: Irish, Welch, Scotch, French, and North Italian.

Slavic division, from eastern Europe: Bohemian, Moravian, Bulgarian, Servian, Montenegrin, Croatian, Slovenian, Dalmatian, Bosnian, Herzegovinian, Hebrew, Lithuanian, Polish, Roumanian, Russian, Ruthenian, and Slovak.

The Mongolic division has also been added, to include Chinese, Japanese, Korean, East Indian, Pacific Islander, and Filipino.

Under "all others" have been included Magyar, Turkish, Armenian, African (black), and subdivisions native to the Western Hemisphere.

The foregoing racial divisions are indicated on the chart by the coloring of the race bars. By reason of blood mixture this classification is somewhat arbitrary, especially with regard to Finnish, Scotch, and southern Germans.

RACIAL DISTRIBUTION.

Iberic and Slavic divisions: About 70 per cent of the immigration going to the group of seven States, New York, Pennsylvania, New Jersey, Ohio, Delaware, Maryland, and West Virginia, which group receives 60 per cent of the entire immigration to the United States, belong to the Iberic races of southern Europe (principally South Italian) and Slavic races of eastern Europe, including Magyars from Hungary. Of the great bulk of immigration going to New York, 34 per cent is South Italian and 23 per cent Hebrew. Other eastern and southern States, and Indiana, Illinois, and Missouri get large percentages of immigrants belonging to the Iberic and Slavic divisions. Louisiana is conspicuous because of heavy percentage of South Italians.

Teutonic division: The Northwestern States get heavy percentages of immigrants of Teutonic blood from northern Europe, the States of Michigan, Minnesota, North and South Dakota, Iowa, Kansas, Nebraska, and Utah each receiving from 65 to 90 per cent of immigrants of this class.

Celtic division: New England and some of the Southern States show moderate proportions of immigrants of the Celtic division. This class of immigrants, however, is most conspicuously represented in the Southwest and Rocky Mountain regions.

Mongolic division: Most of the immigrants of the Mongolic division, principally Japanese, go to Hawaii and the Pacific coast. Of all the immigrants going to Hawaii, 82 per cent are Japanese.

OCCUPATIONS.

Character of the immigration to certain States and sections with regard to occupation is conspicuously shown by the variation in the proportions of the two great classes designated under the heads of "laborers" and "no occupation." (Immigrants classed under the head of "no occupation" are composed almost entirely of women and children. This class, therefore, represents families).

An examination of the chart shows that immigration to the mining regions of the Alleghenies, Lake Superior, and Rocky Mountains is composed of comparatively few families and a very large proportion of laborers, while that to the agricultural districts of the Middle West and South is composed of comparatively few laborers and large proportions of families. The latter fact is conspicuously the case with regard to the tier of seven prairie States and Territories from North Dakota to Texas, where nearly half the immigration consists of women and children classed under the head "no occupation," with a corresponding decrease in the proportion of laborers. It is notable also that the Teutonic element in the immigration to this tier of States greatly predominates, and there are more Germans than immigrants of any other Teutonic race.

CHART 8.—ILLITERACY BY COUNTRY.

This chart shows the number and proportion of illiterate immigrants that came from the different countries since 1895. The great quantity of illiterates arriving from Italy, and also from Austria-Hungary and the Russian Empire in somewhat lesser proportions, is prominently shown. These figures are obtained by interrogation only. It is known that actual test of the immigrants' ability to read or write would demonstrate the fact that the proportions shown are far below the actual number.

CHART 9.—ILLITERACY BY RACE.

This chart shows graphically the increase and decrease of arrivals from the different countries and of the various racial divisions since 1899; also the percentage of illiterates of each race for 1904.

CHART 10.—IMMIGRATION BY COUNTRIES.

This chart shows the yearly immigration by countries since 1820. The great bulk of immigration from Germany and the United Kingdom in former years, which is now replaced by immigration from Italy, Austria-Hungary, and Russia, is prominently shown.

CHART 11.—WAVE OF IMMIGRATION TO THE UNITED STATES SINCE 1820.

This chart shows the wave of immigration into the United States from all countries since 1820. Attention is invited to the decrease of immigration during the financial depression of 1857 and following the panics of 1873 and 1893.

FINANCIAL STATEMENT.

RECEIPTS AND EXPENDITURES ON ACCOUNT OF THE IMMIGRANT FUND FROM JULY 1, 1903, TO JUNE 30, 1904, AND BALANCE ON HAND JUNE 30, 1904.

Balance June 30, 1903		$1,276,482.69
Receipts fiscal year 1904		1,599,472.25
Total		2,875,954.94
Expenditures fiscal year 1904		1,296,808.85
		1,579,146.09
Act approved July 1, 1902:		
For improvements and alterations at Ellis Island Immigrant Station—amount of appropriation, $98,625; amount expended	$62,252.80	
For construction of light steel structure—amount of appropriation, $18,000; amount expended	26.75	
Act approved March 3, 1903:		
Extension and addition to hospital; ferryboat; sundries, additions, repairs, and alterations to Government property; and costruction of new island—amount of appropriation, $380,500; amount expended	127,463.46	
Amount of special appropriations to be reimbursed from the "immigrant fund"		189,743.01
Balance June 30, 1904		1,389,403.08

ITEMIZED STATEMENT OF RECEIPTS AND EXPENDITURES AT THE VARIOUS PORTS.

Port.	Receipts.	Expenditures.	Port.	Receipts.	Expenditures.
Astoria, Oreg	$4.00		Pensacola, Fla	$52.00	
Baltimore, Md	110,540.50	$33,166.48	Philadelphia, Pa	38,816.00	$35,991.50
Bangor, Me	32.00		Portland, Me	930.00	925.90
Barnstable, Mass	16.00		Portland, Oreg	960.00	
Boston, Mass	93,611.65	74,966.97	Porto Rico	3,190.00	3,058.32
Charleston, S. C	6.00		Port Townsend, Wash	4,818.00	
Corpus Christi, Tex	918.00		Providence, R. I	114.00	
Fernandina, Fla	8.00		Montreal, Canada	53,967.00	34,261.46
Eagle Pass, Tex	1,008.00		San Diego, Cal	74.00	
El Paso, Tex	1,578.00		San Francisco, Cal	15,064.00	15,002.78
Galveston, Tex	3,704.00		Shieldsboro, Miss	16.00	
Gloucester, Mass	8.00		Sitka, Alaska	20.00	
Gulfport, Miss	6.00		Tampa, Fla	28.00	
Honolulu, Hawaii	19,480.00	18,366.74	Wilmington, Del	10.00	
Jacksonville, Fla	96.00		Vancouver, British Columbia	11,466.00	17,985.07
Key West, Fla	592.00		Amount paid on Ellis Island buildings, fiscal year 1904		50,000.00
Los Angeles, Cal	156.00				
Miscellaneous		381,676.86		1,599,472.25	1,334,157.40
Mobile, Ala	866.00		Less apparent receipts [a]		87,348.55
New Bedford, Mass	7,754.00				
New Orleans, La	9,206.00	7,586.94	Total	1,599,472.25	1,296,808.85
Newport News, Va	868.00				
New York, N. Y	1,219,909.10	711,168.38			
Nogales, Ariz	46.00				
Norfolk, Va	34.00				

[a] Apparent receipts represent amounts recovered on account of overpayments and disallowances made by the Auditor.

RECAPITULATION OF EXPENSES.

Port.	First quarter.	Second quarter.	Third quarter.	Fourth quarter.	Apparent receipts. [a]
Baltimore, Md	$5,748.72	$6,073.82	$9,130.75	$12,213.19	.....
Boston, Mass	9,499.88	20,259.69	25,863.95	19,343.45	$1,321.13
Honolulu, Hawaii	3,539.85	3,636.90	5,007.65	6,182.34	10.78
Miscellaneous	80,582.79	89,984.99	102,060.58	109,048.50	879.20
New Orleans, La	1,439.95	1,858.26	2,769.91	1,518.82	4.66
New York, N. Y	182,926.59	152,538.12	176,635.13	199,068.54	85,131.78
Philadelphia, Pa	6,498.18	10,813.71	9,507.85	9,171.76	.....
Portland, Me	213.60	273.60	221.30	217.40	.....
Porto Rico	929.91	677.60	757.28	693.53	.....
Montreal, Canada	7,101.55	9,086.20	8,956.42	9,117.29	.....
San Francisco, Cal	2,796.40	2,775.90	5,996.75	3,433.73	1.00
Vancouver, British Columbia	2,725.92	4,321.11	4,870.49	6,067.55	.....
Paid on Ellis Island buildings, fiscal year 1904	.....	.....	.....	50,000.00	.....
Total	304,003.34	302,299.90	351,778.06	426,076.10	87,348.55

[a] Apparent receipts represent amounts recovered on account of overpayments and disallowances made by the Auditor.

Appropriation for the enforcement of the Chinese-exclusion act, 1904	$500,000.00
Disbursements on account of salaries and traveling expenses of inspectors, together with amount expended in the deportation of Chinese here in violation of law	432,220.96

From the foregoing statement it will be seen that the net balance on hand after payment of all expenses incident to the administration of the laws and regulations in regard to immigration, and of the sum of $239,743.01 for new buildings, improvements and alterations, ferry-boat, new island, etc., at Ellis Island Immigrant Station, is $1,389,403.08. This is an increase over the balance on hand at the corresponding period last year, of $112,920.39. The total expenditures for the execution of the immigration laws were, at the various points named in the above table, $1,296,808.85. This total of course is exclusive of the payment from the "immigrant fund" (head-tax receipts) of $239,743.01 for repairs, etc., at Ellis Island, above referred to.

CHINESE DEPORTATIONS.

In the Northeastern States	290
In the Northwestern States	117
Other parts of the United States	266
Total	673

As will be seen from the accompanying financial statement, the total cost of making deportations was $75,536.10, an average cost of $112.24 for each Chinese deported. Of this sum the deportation of Chinese from the Northwestern States cost $51,590.62, the larger per capita expense being due to the greater distance from China of those in New York and the New England States.

Expended for salaries and expenses of officers and miscellaneous items	$356,684.86
Expended for deportation of prisoners entering the United States from Canadian border	51,590.62
Expended for deportation of prisoners entering the United States at other points	23,945.48

GENERAL.

In closing this report it seems proper to commend the personnel of the Bureau officers, both in Washington and at the various posts of duty elsewhere. As a force they have been faithful, intelligent, energetic, and under all conditions loyal to the service. Without such efficient aid it would have been impossible to achieve the marked advance in administrative success with these laws which it has been so gratifying to record in these pages. When the nature of these laws is considered, and due allowance is made for the important fact that they are such as deal wholly with human beings instead of mere goods and chattels, it must be conceded that their just enforcement involves, in addition to the necessary qualifications of other successful executive officers, the display of great delicacy and tact, as well as a nice regard for those human rights which it is the proud claim of our institutions to guard, even in the person of the lowliest and most helpless alien.

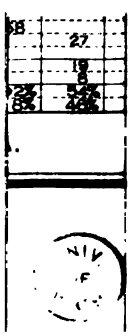
That there has been no complaint can not be truthfully said, but it is the highest testimonial to officers to report that but few charges have been brought against them during the year, and that almost all of such charges have, on investigation, proven to be groundless.

It should be superfluous to say that it has been the unvarying purpose and endeavor of the Bureau to maintain its work upon the highest plane of justice to those fellow-beings who are temporarily subject to the operation of the laws which it administers. It has invariably sought to maintain an attitude which at once recognized and respected the undoubted rights of the Chinese and other aliens brought within the scope of its authority, and its unqualified obligation, regardless of any, the most potent, influence to the contrary, to administer the mandates of the law with evenhanded firmness.

Respectfully,

F. P. SARGENT,
Commissioner-General.

The SECRETARY OF COMMERCE AND LABOR.



REPORT

OF THE

DIRECTOR OF THE BUREAU OF STANDARDS

21301—05——57

REPORT

OF THE

DIRECTOR OF THE BUREAU OF STANDARDS.

DEPARTMENT OF COMMERCE AND LABOR,
BUREAU OF STANDARDS,
Washington, D. C., July 1, 1904.

SIR: I have the honor to submit the following report of the operations of this Bureau for the fiscal year ended June 30, 1904:

During the fiscal year ended June 30, 1904, the work of the Bureau has been carried on in the temporary quarters previously occupied in the Butler and Coast and Geodetic Survey buildings and at No. 235 New Jersey avenue SE., and for a portion of the year a part of the work has been conducted in the new mechanical building on Pierce Mill road, near Connecticut avenue NW.

The offices of the Bureau, together with the section of weights and measures and the section of resistance and electromotive force, have been, as heretofore, in the Butler and Coast and Geodetic Survey buildings. The sections of heat and thermometry and of light and optical instruments have remained during the year in the temporary laboratory fitted up two years ago at No. 235 New Jersey avenue.

The instrument shop was moved into the new mechanical building in the winter and the following sections established themselves in the laboratory rooms of the same building in the spring: (*a*) Inductance and capacity; (*b*) electrical measuring instruments; (*c*) magnetism; (*d*) photometry; and (*e*) engineering instruments. The various sections of the Bureau have thus been enabled to expand their work, the sections remaining behind in the temporary quarters having occupied the space vacated by those moving into the new building.

The physical building is to be completed by the terms of the contract during August next, but it will not be ready for occupancy before October. This building, which is connected with the mechanical building by a spacious tunnel, so that the two are practically one building so far as service and facilities are concerned, is the larger of the two and will accommodate the offices and library and a large part of the research work and testing of the Bureau. The two buildings will provide for the present work of the Bureau and the temporary quarters now occupied will be surrendered.

In addition to the heating and ventilating system, plumbing, steam boilers, pumps, filters, and auxiliary apparatus installed by the Office of the Supervising Architect as an initial equipment for the buildings, the Bureau has installed during the year a considerable amount of

apparatus and machinery in the mechanical building. The more important items of this list of apparatus and machines are the following: A tandem compound engine of 120 horsepower, with two direct-current dynamos of 75 kilowatts combined capacity; a simple engine of 50 horsepower and two dynamos of 30 kilowatts combined capacity; a motor generator for charging storage batteries and a motor-alternator testing set; three motor-generator testing sets brought from the temporary laboratory at 235 New Jersey avenue; two storage batteries; a switch board for all the generators and testing machines, storage batteries, and distributing lines; an ammonia refrigerating machine of 30 tons capacity, together with a small ice-making plant; a gas-making machine for laboratory use, and a large air compressor to be used in connection with a liquid-air plant yet to be installed.

The sum of $1,500 was appropriated by the last Congress for grading grounds and building walks and roads. Of this amount $500 was made immediately available, and has been expended in constructing a walk from Connecticut avenue to the laboratories and a roadway from Pierce Mill road to the mechanical building. The balance will be expended after July 1 for paving and grading about the mechanical building and making a short piece of macadamized road.

SCOPE OF THE BUREAU'S WORK.

The testing work done by the Bureau is much more extensive and important than the table of tests and fees would indicate. It was never expected that the fees received for testing would amount to a sum comparable with the total expense of the Bureau, and yet the amount of fees will increase largely year by year as the work develops and the force increases. By far the greater part of the work of the Bureau is that of investigation in connection with the improvement of standards and methods of measurement, hence it is necessary to maintain a force of men and an equipment for doing scientific work of the highest grade. The act of Congress authorizing the establishment of the Bureau of Standards provided that the Bureau should acquire and construct, when necessary, copies of the standards adopted or recognized by the Government, their multiples and subdivisions; should compare with these standards the instruments and standards employed in scientific investigations, engineering, manufacturing, commerce, and in educational institutions; should conduct researches pertaining to precision measurements, and should determine physical constants and properties of materials. Granting that the primary purpose of the Bureau is to do testing for the Government and the public, it is evident that the wide range of work provided for in the act establishing the Bureau is necessary, in order that testing of the highest grade may be done.

The Bureau is the custodian of the legal standards of length of the United States, and hence every precision standard used by manufacturers of bars, rules, tapes, or other measuring instruments, or by engineers or surveyors in laying out buildings or measuring land, or by the States or the Government in running boundaries or making maps or charts, or by scientific investigators in all research work, must come directly or indirectly from the Bureau of Standards. Similarly the Bureau is the custodian of the legal standards of mass, and every manufacturer of scales and balances, from the delicate balances used

by chemists and assayers to the heaviest scales used in commerce, depends directly or indirectly on the Bureau for his standards. Manufacturers' standards are not made by the Bureau except in rare cases, but are purchased from the makers of standard weights and measures and brought to the Bureau from time to time for comparison with the standards of the Government. The degree of precision with which they are compared with the fundamental standards varies from that required in the standards for ordinary weights and measures to that which is necessary in the standards used in scientific work which demands the application of the most precise methods of measurement known. The importance to manufacturing, commercial, and scientific interests of correct standards and uniformity of measurements of length, mass, and capacity is readily understood; but it is equally important that these interests be properly provided with accurate standards for measurements of electricity, heat, illumination, pressure, power, and other quantities. Moreover, the standards involved are far more complex. Their preparation and comparison involve measurements and investigations of the highest order in practically all branches of physics and chemistry. This work includes the verification of the volumetric apparatus used by chemists in all kinds of analytical work; the testing of precision thermometers used in scientific work or as standards by thermometer manufacturers, and of clinical thermometers and the standards employed in their manufacture, and the standardization of instruments for measuring low temperatures used in scientific work, and of pyrometers for measuring high temperatures in connection with the steel, glass, pottery, and other industries. The importance of a knowledge of the temperatures employed in these industries is now well understood. The instruments involved are, moreover, subject to error and must be compared from time to time with the standards. The standards and measuring instruments employed in the electrical industries are no less important or varied in their nature. They involve standards of resistance and electromotive force, the two most fundamental units employed in electrical measurements. Every manufacturer or user of electrical measuring instruments or machinery must depend directly or indirectly upon these standards, as well as standards of capacity and inductance. The Bureau also maintains a laboratory for the preparation and testing of standards of illumination used in the manufacture of electric lamps or the testing of gas, oil, and other illuminants.

The illustrations given refer only to the more important branches of the Bureau's work, yet they serve to show its wide range and its scientific as well as commercial importance. Obviously, the Bureau of Standards, occupying the position of a court of highest appeal in matters pertaining to weights and measures, must possess material standards as perfect as possible; the methods of measurement employed must be the latest and best; the instruments used must be the most effective that can be bought or built; the laboratory facilities should be complete in all respects; and, finally, the men in charge of the work and their assistants must be able, well trained, and experienced.

WEIGHTS AND MEASURES.

In addition to an unusually large amount of routine testing done in this section during the year, considerable attention was given to the

designing and construction of new apparatus. This work included the preparation of plans for a 50-meter tape comparator and also an arrangement for comparing 5-meter base standards for geodetic work. To accommodate these comparators the entire length of the tunnel connecting the mechanical and physical laboratories was divided into two parts by a brick wall. That part of the tunnel devoted to the comparators is about 2 meters wide, and against one wall will be placed the 50-meter and the 150-foot tape standards, while the base bar comparator will be near the opposite wall. When completed the facilities for work of this character will be equal if not superior to any in existence.

Plans are also being prepared for a comparator for testing end-standards and gauges up to 500 millimeters, or 20 inches in length. End-standards and gauges are used almost exclusively for precise mechanical work; manufacturers of these gauges now work so accurately that one of the most difficult problems is to determine with sufficient precision the absolute length of the standards employed. It is also proposed to study with this comparator various methods of contact used with end-standards.

Designs for standard weights and measures for the use of State, county, and city sealers were completed during the year and placed in the hands of several manufacturers. These supply a long-felt want. Sealers may now purchase sets of standards specially designed for their use and send them to the Bureau to be verified and stamped.

Early in the year a notice of a proposed meeting of State sealers was sent to the governors of all the States, but as a great many replies indicated that no funds were available for the purpose of sending representatives, it was decided to postpone the meeting until January, 1905. The object of this meeting is to discuss means for securing greater uniformity in the laws and practices concerning weights and measures in the United States; also to bring about closer relations between the Bureau and State officials. In order that the data for intelligent discussion of the subject may be had, the Bureau is compiling the laws of all the States, as well as the national laws, relating to weights and measures. This information has never been available, for the reason that it is scattered through many volumes seldom accessible to those interested in the subject.

In addition to the equipment which is being designed and constructed in the Bureau for the section of weights and measures, a number of precision balances of the highest grade have been ordered. One of these balances will permit of weighing being done in vacuo. While the reduction to vacuo of weighings can ordinarily be made with all needful accuracy by observing the temperature, humidity, and pressure of the air and making correction for the air displaced by the weights, these methods are indirect and should occasionally be verified by actually weighing in vacuo.

Satisfactory progress has been made in meeting the demands of chemists for the calibration of volumetric apparatus used in exact analytical work. A rapid volumetric method for testing flasks and similar measuring apparatus was devised and thoroughly tested in the verification of a large number of 100 cubic centimeter sugar flasks submitted by the United States Treasury Department. This method will be applied to the calibration of flasks and graduated cylinders of all sizes. Considerable work was done for the Public Health and Marine-Hospital Service, for which higher accuracy was required

than has previously been attempted with glass volumetric apparatus. The apparatus was for use in the preparation of diphtheria and other antitoxins, and it is essential that all apparatus used in their manufacture be as correctly graduated as possible.

Regulations were issued by the Bureau for the testing of such measuring apparatus. They were based upon the experience of the foreign standardizing laboratories and upon experiments conducted at this Bureau after consultation with a committee representing the American Chemical Society and with manufacturers of chemical glassware.

Numerous aneroid barometers for the use of the Navy Department and for individuals have been tested during the year. The capacity of the apparatus used for this purpose is too small, and it is proposed to greatly increase the size of the variable pressure chamber and to provide facilities for rapidly raising and lowering the temperature of the chamber in order to determine the effect of temperature upon the indication of the aneroids.

The national prototype meter of the United States was taken to Europe and recompared with the standards of the International Bureau. This is the first time that this standard has been compared since the original comparison made under the direction of the International Committee in 1888 and 1889. The results of the comparison indicate a very satisfactory constancy in the length of these standards and will be given in detail in the first number of the Bureau bulletin.

Considerable attention was given by this section to the exhibit of the Bureau at St. Louis. Six large cases containing weights and measures of historical interest and types of the best foreign and United States weights and measures were shown, the purpose being to show the progress that has been made in the construction of material standards and to illustrate their form and variety.

Among the more important pieces of work done in this section during the year may be mentioned the graduation and comparison of a standard metric bar for the Canadian government and the repair, readjustment, and verification of the Wisconsin standard weights and measures.

Plans for the equipment of a laboratory for testing time-measuring apparatus were also made during the year. The first requisite is a standard clock of such construction and workmanship that it shall have a minimum of imperfections and shall be affected as little as possible by changes in temperature and atmospheric pressure. A clock fulfilling these requirements has been ordered for delivery about December, 1904. For recording the time, making clock comparisons, rating chronometers, and for use in testing other time-measuring apparatus a double-pen chronograph has been secured.

HEAT AND THERMOMETRY.

During the year a laboratory has been equipped for testing instruments used for the measurement of high temperatures, so that the Bureau is now in a position to standardize almost every type of pyrometer. Pyrometers have not yet found as wide application in American industries as abroad, and the advantages resulting from their use in the control and duplication of products are just beginning to be realized. Since the establishment of this laboratory many engineers and experts of varied industrial concerns have visited the Bureau and

have taken great interest in this work. During the year some of the best optical and radiation pyrometers at present available have been investigated, as it is in this field that the most marked advances have been made in recent years in the measurement of high temperatures, including even the extreme temperatures of the electric arc. The results of these investigations will be published in the near future.

A special comparator designed for the testing of mercurial thermometers in the interval 0° to 100° C. was constructed in the instrument shop. This comparator has also been used for the intercomparison of a number of primary standard mercurial thermometers, constructed by Tonnelot and by Baudin, which have been subjected to an elaborate investigation at the International Bureau of Weights and Measures.

The Bureau has acquired during the past year a number of primary standard mercurial thermometers in the interval from 0° to 550° C., constructed by Baudin, of Paris, and by Niehls, of Berlin. The intercomparison of these thermometers and the comparison of the scale which they define with the scale defined by a number of platinum resistance thermometers is of fundamental importance, as on this work depends the standard scale of temperature of this Bureau in the interval 0° to 550° C. Several specially designed platinum resistance thermometers have been received from the Cambridge Scientific Instrument Company. A special Wheatstone resistance box has been designed for use with the platinum thermometers for work of the highest precision.

The development of methods and the design and construction of the necessary apparatus for the testing of clinical thermometers, which have been under way for some time, were carried to a satisfactory conclusion during the past year, and on December 15, 1903, the Bureau issued a circular (No. 5) on The Testing of Clinical Thermometers, giving the conditions and test requirements that such thermometers must satisfy in order to receive the certificate and official seal of this Bureau, together with the table of fees for testing.

At the beginning of this work large errors were found in the product submitted for test. An investigation of the standards used by manufacturers showed that these were often in error by amounts that could by no means be neglected. During the past year most of the leading manufacturers have submitted their standards for test. Many have constructed new sets of standards. In some instances these standards were pointed by the Bureau, returned to the maker for graduation, and resubmitted to the Bureau for test. In order to further facilitate the use of standards of proper construction and the general introduction and use of a uniform scale of temperature, the Bureau has loaned for brief periods to a number of manufacturers some of its own standard thermometers, specially designed for the requirements of clinical thermometry. The errors of those now sent for test are less than half as great as at the beginning of this work.

The hearty cooperation and active interest of the manufacturers has done much to facilitate the work. The early experiments to determine the behavior of clinical thermometers of the average grade were made with thermometers placed at the disposal of the Bureau free of cost, as were the thermometers, made in special forms and of special kinds of glass, used in the experiments on the action of clinical thermometers. The representatives and experts of many of the manufacturers of clin-

ical thermometers have visited the laboratories during the year and have carefully inspected the methods of testing. A large number of tests were made for the several departments of the Government, manufacturers, hospitals, druggists, and physicians.

LIGHT AND OPTICAL INSTRUMENTS.

Optical testing and investigations are, in general, of such a nature that they can not be undertaken except with more complete facilities than those afforded by the temporary quarters of the Bureau. There are many investigations to be taken up by this section which must be deferred until the completion of the new physical laboratory. Nevertheless several of the more important ones are under way. The Bureau has been requested by the Treasury Department to cooperate with it in establishing uniform and improved methods for the polariscopic analysis of sugar. New and improved polariscopic apparatus has been secured or constructed, and the Bureau is now in a position to standardize quartz plates and the polariscopic apparatus used in sugar analyses. Preliminary investigations have been made in reference to the application of interference methods to linear and angular measurements; also an investigation of the sources of light used in such measurements and in spectroscopic analysis. The work of this section includes the determination of the optical properties of materials. Several such tests have been made for the public and in connection with the regular work of the Bureau.

ENGINEERING INSTRUMENTS AND MATERIALS.

A small laboratory for the testing of engineering instruments has been established in the mechanical building, the equipment of which includes a machine for testing the strength of materials, with a capacity of 100,000 pounds (45,000 kilograms). This will be used for testing materials for this and other Government bureaus and for the public when an authoritative test is required. An apparatus for the testing of water meters has been installed and has yielded satisfactory results; its capacity is limited at present to meters not larger than 2 inches, the type of meter being immaterial. A gas-meter prover of the recognized standard type of 5 cubic feet capacity has been installed in the laboratory and is ready for service. A fluid pressure balance was purchased for the testing of steam-pressure gauges, pending the construction of a mercury column, which will shortly be erected and used as the primary standard for all work of this kind. A temporary arrangement for the testing of speed indicators has been provided; however, a standard should be adopted in order that the new installation may conform to it. Much of the equipment in this laboratory will serve as a model for the equipment of municipal laboratories and will be used for instruction of officials in charge of them. Numerous requests for information in matters pertaining to this work have been received, all of which were given careful consideration. Among other important matters which have received attention is the establishment of a uniform system of fire hose couplings. An extensive correspondence showed that a great variety of sizes are used in different cities. The standards for several important cities were examined and inquiries were made to ascertain whether a change to uniform

standard was feasible. There was unanimous agreement as to the desirability of uniformity, but few cities were willing to change their own systems.

ELECTRICAL RESISTANCE AND ELECTROMOTIVE FORCE.

The work of the section of electrical resistance and electromotive force includes the construction and verification of resistance standards and standards of electromotive force, the calibration of resistance boxes, Wheatstone bridges, potentiometers, precision rheostats, and resistance standards for current measurements. A considerable number of pieces of apparatus of this kind have been calibrated during the year. In addition, investigations have been carried on to ascertain how to prepare materials for standard cells, in order to construct cells of uniform electromotive force that will hold their value permanently. A considerable number of cells have been constructed and studied, and some of the results have been published. The work of the section has also been developed in other directions, and some important pieces of apparatus have been added to the equipment.

MAGNETISM AND ABSOLUTE MEASUREMENT OF CURRENT.

The section of magnetism and absolute measurement of current was partially organized during the past year, but, owing to the lack of room, apparatus, and men, little testing has been done in the temporary magnetic laboratory in the mechanical building. Several pieces of apparatus for magnetic testing have been purchased, and work has been begun on the accurate graduation of these instruments, so that in a short time this laboratory will be prepared to take up the regular testing of specimens of iron and steel and other magnetic substances.

As a preliminary to the important work of redetermining, in absolute units, electric current and the electromotive force of standard cells, the study of the silver voltameter was taken up. This research led to the construction of an improved form of silver voltameter, which will be used in future work of this kind at the Bureau. The elastic properties of a large number of materials have been investigated, with special reference to their use as suspensions of the moving coil in connection with an absolute electrodynamometer now being constructed.

INDUCTANCE AND CAPACITY.

This work includes the construction and testing of standards of inductance and capacity and the verification for the public of inductance coils and condensers and the measurements of inductance and capacity of instruments. A considerable number of such tests have been made, and some thorough investigations have been carried out on the absolute determination of inductance and capacity, the preliminary results of which have been published. Investigations on the testing of condensers and studies of various methods of measurements have been carried on during the year. A considerable quantity of apparatus has been added to this laboratory through purchase and construction.

ELECTRICAL MEASURING INSTRUMENTS.

The work of the section of electrical measuring instruments includes the investigation and testing of instruments of precision for measuring electric current, electromotive force and power, and the testing of

instruments designed for such measurements, as ammeters, voltmeters, wattmeters, and watthour meters, for direct and alternating currents, and special alternating-current instruments, such as frequency meters, phasemeters, curve tracers, etc. A considerable amount of testing has been done, as well as some investigation of instruments and methods of measurement. A series of new alternating-current instruments designed by this section and constructed in the instrument shop of the Bureau has been found to give very satisfactory results in the measurement of current and electromotive force and power, through a wide range of current and voltage. Some special forms of alternating-current generators, designed by this section and constructed for the Bureau, have proved of great value in testing instruments. During the coming year a number of important additions are to be made to the equipment.

PHOTOMETRY.

Considerable progress has been made in the development of the work in photometry. The number of tests of standards of illumination has increased steadily, and several tests of a special nature have been undertaken, of which may be mentioned particularly the investigation of the relative illuminating power of several kerosene oils, which is not yet completed. One line of work which has developed during the past year is the commercial testing of incandescent electric lamps for the various departments of the Government. The present force and equipment are very inadequate; however, much attention is being paid to the development of the work. To this end, plans have been made and some apparatus has been ordered for a commercial photometer with which it will be possible to test a great number of lamps in a relatively short time. An integrating photometer for the measurement of mean spherical candlepower is being constructed in the instrument shop of the Bureau, which, together with the apparatus already in use, will constitute a fairly complete equipment for the testing of incandescent lamps. Subsequently, preparations will be made for the testing of other light sources, such as arc lights and illuminating gases.

In addition to the testing and the equipment of the laboratory some work of investigation has been undertaken. Preliminary to the designing of the integrating photometer mentioned, a theoretical study of the instrument was made, which led to several improvements. Other investigations of photometric problems have been outlined, and some apparatus has been designed and purchased.

CHEMICAL WORK.

Owing to the lack of permanent laboratory facilities the work of the chemical division is as yet incompletely organized. During the past year a room in the Bureau of Chemistry of the Department of Agriculture has been occupied by courtesy of the Secretary of Agriculture and the Chief of the Bureau of Chemistry. Some work has been done there, in cooperation with a member of another division, in the preparation and examination of pure materials for use in constructing standard cells for the measurement of electromotive force. Much time has been devoted to the planning of the arrangements and equipment of the new laboratories.

In conjunction with a committee of the American Chemical Society and with the head of the section of weights and measures, specifications have been prepared for the manufacture of apparatus for volumetric analysis which will be received by the Bureau for verification, and for the testing of such apparatus. Some work has also been done in connection with another committee of the American Chemical Society upon the subject of purity of chemical reagents.

OFFICE.

The following publications have been issued during the year: Annual Report of the Director; Chart of the International Metric System of Weights and Measures, issued February 11, 1904; Circular No. 1, Verification of Standards and Measuring Instruments, issued December 1, 1903; Circular No. 2, Verification of Metal Tapes, issued December 1, 1903; Circular No. 3, Verification of Standards of Mass, issued December 10, 1903; Circular No. 4, Verification of Standards of Capacity, issued December 10, 1903; Circular No. 5, Testing of Clinical Thermometers, issued December 15, 1903; Circular No. 6, Verification of Electrical Standards and Measuring Instruments, issued February 15, 1904; Circular No. 7, Pyrometer Testing and Heat Measurements, issued April 15, 1904.

The staff of the Bureau consisted of 58 persons, distributed as follows:

Director, 1 physicist, 1 chemist	3
Eight associate and assistant physicists, 1 assistant chemist	9
Fifteen laboratory assistants, 1 librarian, 1 computer, 1 draftsman	18
One secretary, 4 clerks, 2 messengers, 1 storekeeper	8
Four mechanicians, 2 woodworkers, 3 apprentices, 2 laborers	11
One engineer, 1 assistant engineer, 1 electrician, 2 firemen, 2 watchmen, 1 janitor, 1 charwoman	9
Total	58

The staff will be increased to 71 at the beginning of the new fiscal year.

The library contains 1,949 bound volumes, together with a number of pamphlets, reprints, and miscellaneous scientific reports. It consists entirely of books of a purely technical character, dealing directly with or closely related to the work of the Bureau. During the year 1,165 volumes have been added. Acquisitions by purchase have been, in general, books that were not available in the other libraries of the city or were in such constant use as to require that copies be immediately at hand. The privileges of nearly all the libraries of the city have been extended to the Bureau. Many books have been borrowed from them during the year and much assistance has been rendered by the several librarians. A complete author and subject catalogue of the works on hand has been prepared. Through the card distribution of the Library of Congress the Bureau possesses a complete author and subject catalogue of that Library's collection, so far as cards have been printed, in the subjects relating to the work of the Bureau. Titles are being continually added as they appear, and ultimately the card catalogue of both collections will be complete. The library has been conducted as a reference and circulating library available to members. The total loan circulation for the year was 1,206 volumes. Of this number 932 were from the Bureau collection and 274 were loaned by other libraries.

Number and value of tests completed during fiscal year ended June 30, 1904.

Nature of test.	For Government.		For public.		Total.	
	Number.	Value.	Number.	Value.	Number.	Value.
Length	125	$162.00	97	$239.15	222	$401.15
Mass	219	178.50	389	245.25	608	423.75
Capacity	670	311.00	40	63.00	710	374.00
Photometry	513	57.70	76	93.50	589	151.20
Temperature	1,750	294.20	3,559	591.27	5,309	885.47
Electrical	36	166.00	131	522.65	167	688.65
Sundry	144	144.00	7	7.50	151	151.50
Total	3,457	1,313.40	4,299	1,762.32	7,756	3,075.72

The number of tests made for the Government in 1903–4 was 174 per cent greater than in the preceding fiscal year, and the number of tests for the public was 961 per cent greater, the increase in tests for both Government and public amounting to 366 per cent.

The receipts for tests were as follows:

Total receipts, 1903–4			$1,745.87
Previously received for tests in progress, 1903–4	$72.00		
Subsequently received for tests completed, 1903–4	29.05		
		101.05	
			$1,846.92
Received for tests completed, 1902–3		46.00	
Received for tests in progress		38.60	
			84.60
Fees for tests completed, 1903–4			1,762.32

FINANCIAL STATEMENT.

APPROPRIATIONS, 1901–2.

[Corrected to July 1, 1904.]

Appropriations.	Disbursements.	Liabilities.	Balance.	Total.
Laboratory	$261,171.07	$63,542.64	$286.29	$325,000.00
Site	25,000.00			25,000.00
Salaries, 1902	21,959.76		5,180.24	27,140.00
Equipment, 1902	9,915.69		84.31	10,000.00
General expenses, 1902	4,894.81	40.06	65.13	5,000.00
Total	322,941.33	63,582.70	5,615.97	392,140.00

APPROPRIATIONS, 1902–3.

[Corrected to July 1, 1904.]

Salaries, 1903	$32,559.93		$3,500.07	$36,060.00
Equipment, 1903	28,265.35	$1,711.20	23.45	30,000.00
General expenses, 1903	4,939.97	42.80	17.23	5,000.00
Total	65,765.25	1,754.00	3,540.75	71,060.00

APPROPRIATIONS, 1903–4.

Salaries, 1904	$69,754.59		$4,945.41	$74,700.00
Equipment, 1904	66,965.47	$42,953.80	80.73	110,000.00
General expenses, 1904	9,232.48	1,277.89	239.63	10,750.00
Grounds, 1904–5	500.00			500.00
Total	146,452.54	44,231.69	5,265.77	195,950.00

Respectfully,

S. W. STRATTON, *Director.*

The SECRETARY OF COMMERCE AND LABOR.

INDEX.

Page.

Accidents; marine. *See* Vessels, casualties in connection with.
Agriculture, products of, exports of, from the United States 28
Alabama, light-house establishment in 225
Alaska, cable from Seattle to, deep-sea investigation for 341
  cod fisheries of 558
  commerce of United States with 29
  fish-fertilizer plants in 653
  fur-seal fisheries of 39
  halibut fisheries of 653
  herring fisheries of 652
  light-house service of 20, 289
    needs of 133, 136
  magnetic surveys in 338
  marine casualties, investigations, and violations of law in 377
  salmon fisheries of, employees in 650
    investigation of 37, 480, 545
    laws regarding, enforcement of 633
    methods of 551
    output of 38, 598, 642, 647
    recommendations regarding 554, 654
    reports on 545, 598, 613
    statistics of 645
      summary of 642
    value of 553
    vessels, boats, and fishing gear used in 651
  salmon of, kinds, character, and habits of 546
    protection of, recommendations regarding 554, 654
    small size of, in 1904 653
  salmon-packing industry of, employees in 650, 654
    methods used in 600
    output of 38, 598, 642, 647
    plants engaged in 645
      inspection of 619
      new and abandoned 632
    reports on 553, 598, 613
    statistics of 645
      summary of 642
  salmon propagation in 636
  shad and whitefish in 653
  work of Coast and Geodetic Survey in . 27, 339
Alaska Boundary case, work of Coast and Geodetic Survey in connection with . 28, 337, 341

Page.

Albany, N. Y., steamboat-inspection district of, casualties, etc., in 396
Albermarle Sound, light-house establishment on 198
Alien contract labor, work in exclusion of 43, 767
Aliens. *See* Immigrants.
Alien seamen, inspection of, under immigration laws 807
  inspection of, Ellis Island station 833
Allentown, Pa., fish station at, mortality at. 566
American Fisheries Society, meeting of 483
American Lake, Wash., investigation of fishes of 561
Ankylostomiasis, agitation for measures to exclude, from England 857
Apalachicola, Fla., steamboat-inspection district of, casualties, etc., in 443
Appropriations for Department of Commerce and Labor 7
  See also the several Bureaus.
Argentina, presentation of fish eggs to 475
Arizona, investigation of fish streams of ... 564
Arkansas, light-house establishment in 300
Asia, commerce of United States with. 29
Australia, labor conditions in, paper on 114

Baird, S. F., erection of memorial to 483
Baker Lake fish station, Washington, installation of trap and pounds at 490
Baltimore, Md., immigrant station at, improvements in 829
  steamboat-inspection district of, casualties, etc., in 402
Bangor, Me., steamboat-inspection district of, casualties, etc., in 398
Barometers, aneroid, standardization of ... 903
Bass. *See* Black bass; Rock bass; Strawberry bass; Striped bass; Warmouth bass.
Beaufort, N.C., marine laboratory at, biological survey planned by 572
  marine laboratory at, work at 572
Beef industry, investigation of 17, 71
Birds, marine, food of, study of 571
Black bass, distribution of, best age for, experiments to determine 498
  propagation and distribution of .. 488, 527, 537
Black-spotted trout, acclimatization of, in Black Hills 488
  propagation and distribution of 488, 509

Page.

Blank forms, printing and distribution of 14
Blind, reports concerning, work on 316
Blue crab, life history of, study of 544
Boiler materials inspected by Steamboat-Inspection Service 32, 359
first district 369
second district 380
fifth district 411
sixth district 415
seventh district 420
eighth district 427
ninth district 436
tenth district 441
Boilers inspected by Steamboat-Inspection Service 446, 459
first district 368, 370
second district 379, 381
third district 399, 400
fourth district 406, 407
fifth district 410, 411
sixth district 414, 415
seventh district 419, 420
eighth district 426, 427
ninth district 435, 436
tenth district 440, 441
Boothbay, Me., fish station at 476
Boston, Mass., immigrant station at, improvements in 829
steamboat-inspection district of, casualties, etc., in 392
vessel fisheries of, statistics of 575
Boycotts, laws relating to, digest of 114
Bozeman, Mont., fish station at, improvements in 478
Breadstuffs, exports of, from the United States 29
Bream, distribution of 538
Brook trout, mortality among, at Allentown, Pa 566
mortality among, at Cold Spring Harbor, N. Y 567
propagation and distribution of 488, 511
Buffalo, N. Y., steamboat-inspection district of, casualties, etc., in 437
Building and loan associations, report on 116
Buoyage, expenses of, estimate for 132
maintenance of and changes in, first light-house district 151
second district 161
third district 175
fourth district 194
sixth district 215
seventh district 223
eighth district 233
ninth district 246
tenth district 257
eleventh district 273
twelfth district 283
thirteenth district 293
Burlington, Vt., local steamboat-inspection district of, casualties, etc., in 458

California, biological investigations on coast of 562
light-house establishment in 275
Page.
California, proposed exemption of shipping from taxation in 727
salmon fisheries and packing industry of 597
triangulation in 337
computation of 342
Canada, Chinese seeking admission through, treatment of 867
cooperation with, in propagation and distribution of fish 475
daily arrivals of trains, boats, and electric cars from 828
immigrants arrived at ports of, destined for the United States, by steamship lines 816
by countries and races, 1904 742
by countries, sex, etc., 1904 745
by races, sex, etc., 1904 736
immigrants debarred at border stations of 740, 810, 816, 817
immigrants debarred at ports of, by races, sex, etc 737
causes 738
totals of 817
immigrants deported at ports of, 1904 818
immigrants in, one year and less, examined by boards of special inquiry 815
immigrants through, debarred, 1904 ..... 737, 740, 810, 816, 817
medical inspection of 821
immigration through 806
Canadian boundary, re-marking of 28, 338
Canadian Pacific Railway, contract of Government with, regarding Chinese passengers 867
Capacity, measures of. *See* Measures.
Carnegie Institution, bureau of terrestrial magnetism in 339
Casualties, marine. *See* Vessels, casualties in connection with.
Catfish, distribution of 526
Census, first, proposed publication of returns of 25, 310
thirteenth, preparation for 306
twelfth, abstract of, publication of 312
review and analysis of results of, work on 317
Philippine, compilation of 307
records of, preservation and copying of 24, 309
results of, editing and publishing of 313
Census, Bureau of, cooperation of, with other bureaus 308
correspondence work of 309
employees of 330
efficiency of 25, 326
expenditures and appropriations of 305, 325
geographer's division of, work of 309
library of 309
publications of 25, 311, 332
method of handling 312
proposed sale of 311
value of 306
report of 305
special investigations by 22, 315
work of 22, 303
current 313
value of 25, 306

Page.
Charitable institutions of the United States, aliens in 42
aliens in, by race, sex, cause, etc 786
proportion of, to total alien population 789
native, naturalized, and alien inmates of, by sections of country 790
See Penal, reformatory, and charitable institutions.
Charleston, S. C., local steamboat-inspection district of, casualties, etc., in 403
Charts, Coast and Geodetic Survey, preparation and sale of 345
Philippine, work on and distribution of. 347
Chemical work of Bureau of Standards .. 47, 907
Chesapeake Bay, experiments in, in culture of oysters, crabs, and terrapin. 540, 544
light-house establishment on 198
Chicago, Ill., Italians in, report on 119
steamboat-inspection district of, casualties, etc., in 428
Child labor in the United States, paper on. 111
Children, efficiency and wages of, compared to men, report on 116
China, commerce of United States with 29
need of immigration officers in 45, 886
Chinese cases, appealed to Department 885
dealt with at San Francisco 887
disposition of, chart showing 878, 890
summary of 888
Chinese-exclusion laws, enforcement of ... 43, 866
enforcement of, at border ports 867
new, recommended 885
Chinese persons, applying for admission to the United States, proposed examination of, in China 45, 886
arrested for being unlawfully in the United States, disposition of 879
New York 870
certificates of residence for, issue of 871
deportation of, expenses of 894
exempt classes of, admission of 872
in transit, admission of 878
laborers, movement of 872
merchants, admission of 872
minor sons of merchants, admission of. 874
natives of the United States, admission of 875
residents of United States, proposed registration of 45
seamen, treatment of 879
smuggling of, convictions for 881
visitors to expositions, treatment of 881
Cincinnati, Ohio, steamboat-inspection district of, casualties, etc., in 421
Cities, ownership of public works by, report on 117
social and financial statistics of, investigation of 314, 317
Civil service, executive, statistics of, compilation of 24, 307
Clam fisheries, investigation of, planned at Beaufort laboratory 573
Clams as a source of infection, study of 570
Cleveland, Ohio, steamboat-inspection district of, casualties, etc., in 436

Page.
Coal-mine labor in European countries, report on, work on 112
Coal-mine workers, union movement among, paper on 111
Coast and Geodetic Survey, appropriations for 27
chart division of, work of 345
computing division of, work of 342
division of terrestrial magnetism of, work of 348
drawing and engraving division of, work of 344
finances of 348
instrument division of, work of 346
library and archives division, work of. 346
office work of 342
publications of, work on 349
report on 335
tidal division of, work of 343
vessels of, changes in 347
work of 27, 335
Coasting trade, sail vessels in, discrimination against 692
Coast pilot, publication of new editions of. 347
Cod, propagation and distribution of 487, 539
Cod fisheries, Shumagin Islands 558
Pacific coast 590
Cold Spring Harbor, N. Y., fish station, mortality at 567
Collectors of customs, accounts of, examination of, by Bureau of Navigation 725
Colorado, labor disturbances in, report on, work on 112
Color-blindness, examinations for 362
Columbia River, salmon run in 594
Commerce, foreign, of the United States ... 28
internal, of the United States, reports on 30
interstate. *See* Interstate commerce.
Commercial conditions, laws affecting 78
Commercial reports from consular officers, publication of, by Bureau of Statistics ... 30
Compass ranges, establishment of, on Delaware breakwater 342
Competition, unfair, laws against 82
Connecticut, light house establishment in. 163
Consular reports, publication of, by Bureau of Statistics 30
Contract labor, alien, work in exclusion of 43, 767
Convict labor, preparation of report on 18, 112, 114
Corporations, constitutional powers and restrictions affecting, investigation of .. 15, 68
constitutional powers of Congress over .. 83
Federal, for interstate commerce 84, 89
advantages of and objections to 100
constitutionality of 83
legal questions in connection with. 99
power to produce as an appropriate incidental and as an essential of . 92
versus Federal franchise for interstate commerce 99
Federal franchise to, for interstate commerce 85
advantages of and objections to 100
essential machinery of 98

Page.

Corporations, Federal franchise to, legal questions raised by 99
Federal franchise to, versus Federal incorporation 99
governmental regulation of, ground for 80
laws affecting 78
comparative efficiency of 82
development of 78
fundamental theory of 79
investigation of 15, 60, 69
peculiar characteristics of 79
prospects of improvement in, by State action 84
suggested by work of Bureau of Corporations 84
lists of, collection of, in various States . 67
records of, investigation of 17, 63, 66
State, engaged in interstate commerce, legal status of 102
system of incorporation of 80
taxation of, investigation of 16, 65, 67
laws affecting 82
Corporations, Bureau of, appropriations for. 17
appropriations for, recommendations regarding 56
complaints to 76
employees of 54, 56
establishment of 53
expenditures of 54
general policy of 76
law establishing 53
study of 56
library of 55
powers and duties of 53, 57
investigation of 69
report on 53
States in which work has been done by 68
work of 15, 60
field 66
legal 58, 60
scope of 57
summary of 86
Corporations, Commissioner of, powers of .. 59
report of 53
Cortelyou, Hon. George B., tribute to 48
Cost of living for workingmen's families, report on 109, 117
Cotton production, statistics of, collection of 23, 318
Crab, blue, life history of, study of 544
Crappie, distribution of 535
Criminals. *See* Delinquent classes; Penal institutions.
Crimping, suppression of 421, 678
Cuba, aids to navigation at Guantanamo .. 186
Custom-houses, testing of weights and measures of 46
Customs, collectors of, accounts of, examination of, by Bureau of Navigation 725
Cutthroat trout, characters and habits of .. 550

Dakotas, triangulation in 337
Daymarks, maintenance of and changes in, first light-house district 149
second district 156
third district 170

Page.

Daymarks, maintenance of and changes in, fourth light-house district 192
fifth district 205
sixth district 214
seventh district 222
eighth district 232
eleventh district 270
twelfth district 281
thirteenth district 293
Hawaii 287
Deaf, reports concerning, work on 31
Deaths from marine accidents 33, 360
See also Vessels, casualties in connection with.
Debt of the United States, preparation of report on 22, 313
Defective, dependent, and delinquent classes, preparation of report on 23, 316
Delaware, aids to navigation in 187
Delaware Bay, light-house establishment on 187
Delaware Breakwater, establishment of compass ranges on 342
Delinquent classes, preparation of report on 23, 316
Dependent classes, preparation of report on 23, 316
Derelicts, removal of, desirability of 694
Detroit, Mich., steamboat-inspection district of, casualties in 427
Diamond-back terrapin, culture of, experiments in 544
Disbursements by the Department of Commerce and Labor 8
See also the several Bureaus.
Diseased aliens. *See* Immigrants, diseased.
Divorce, statistics of, report on 118
Dolly Varden trout, characters and habits of 550
Dredges, foreign built, in the United States. 673
Dubuque, Iowa, local steamboat-inspection district of, casualties, etc., in 411
Duluth, Minn., fish station at, improvements in 477
steamboat-inspection district of, casualties, etc., in 412
Dumb, reports concerning, work on 316

Eagle lakes, Aroostook County, Me., investigations regarding fishes of 558
Earth, form of, computation of 342
Economics, investigations in 70
Editorial work, Department of Commerce and Labor 14
Education, industrial, report on 115, 117
Eight-hour bill for men employed on Government work, preparation of report on. 18, 112
Electric capacity, standards of measurements of, work in connection with 906
Electric cells, preparation of materials for . 906
Electric current, standards of absolute measurement of, work on 906
Electric industries, preparation of reports on 23, 317
Electric lamps, testing of 907
Electric-light plants, municipal and private, report on 117

Page.

Electric measuring instruments, standardization of 906
Electric resistance, standards of measurement of, work in connection with 906
Electric work of Bureau of Standards..... 47
See also Inductance.
Electromotive force, standards of measurement of, work in connection with 906
Ellis Island immigrant station, balance sheet of medical force at..... 842
buildings, grounds, and improvements at..... 834
conditions at..... 829
hospital transactions at, 1904..... 838
rules for inspection at..... 831
work at, report on..... 830
by medical examiners..... 841
Engineering instruments and materials, standardization of..... 46, 905
Estimates for work of Department of Commerce and Labor..... 10
See also the several Bureaus.
Europe, commerce of United States with.. 29
Evansville, Ind., local steamboat-inspection district of, casualties, etc., in..... 416
Executive civil service, statistics of, compilation of..... 24, 807
Expenditures. *See* Disbursements.

Farm colonies of Salvation Army, paper on. 111
Fertilizer plants (fish), Alaska..... 652
Finance, municipal, statistics of, work on. 314, 317
Financial statement, Department of Commerce and Labor..... 7
See also the several Bureaus.
Fines, navigation, remission of..... 41
Fire-hose couplings, screw threads of, proposed standardization of 46, 905
Fish commissions, State, allotments of eggs and fish to, by Bureau of Fisheries..... 470
Fish culture, notes on..... 489
Fisheries, investigations in connection with..... 37, 480, 540
statistics and methods of, work in 37, 480
report on 575
Fisheries, Bureau of, appropriations for.... 484
exhibit of, at Louisiana Purchase Exposition..... 488
library of..... 488
personnel of, changes in..... 481
publications of 482
relations of, with foreign countries.... 475
with States..... 469
report on 461
stations operated by..... 498
improvements in..... 476
new 476
vessels of, operations of..... 478
work of..... 35, 468
Fishes, diseases and parasites of, investigation of..... 564
distribution of, best age for..... 498
aid given by railroads to..... 469
car and messenger service employed in..... 468
details of..... 499

Page.

Fishes, distribution of, in foreign countries, by Bureau of Fisheries..... 475
food, inquiries concerning..... 37, 480, 540
game, Alaskan waters..... 551
of Yukon River 558
propagation and distribution of, general results of 485
in the several States..... 468
leading features of 464
species handled in 465
stations for 464
improvements in..... 476
new 176
summary of..... 467
vessels engaged in, operations of... 478
work in..... 36, 464
at the several stations..... 495
Fishing grounds, inquiries concerning..... 480
Flatfish, distribution of..... 539
yield of eggs from 492
Florida, experiments in, in culture of sponges and green turtle 542, 545
interior waters of, fisheries of, statistics of..... 586
light-house establishment of..... 210, 218, 225
Flounder, winter, propagation and distribution of..... 487
Fog signals, maintenance of, estimate for .. 133
maintenance of and changes in, first light-house district 150
second district..... 159
third district 173
fourth district 193
fifth district 206
sixth district..... 215
eighth district..... 233
ninth district..... 244
tenth district 256
eleventh district..... 271
twelfth district 282
thirteenth district 293
submarine, recommendation for appropriation for..... 141
Food, retail prices of, report on..... 109
Forfeitures, navigation, remission of..... 41
Foxes, raising of, on Pribilof Islands..... 39
France, discrimination against foreign shipping in, 1866 and 1872..... 687
measurement of American vessels in... 726
Fur-seal fisheries of Alaska..... 39

Gallipolis, Ohio, steamboat-inspection district of, casualties, etc., in..... 422
Galveston, Tex., steamboat-inspection district of, casualties, etc., in..... 444
Gas-bubble disease of fishes 564
Gas meters, testing of 905
Gas plants, municipal and private, report on..... 117
General Slocum, disaster to 33, 360
Geodesy, office work in, Coast and Geodetic Survey 347
Geodetic operations in the United States, report on 343
Geoid, form of, computation of..... 342

Page.

Georgia, light-house establishment of, report on 210
Glass, cost of producing; report on 115
Gloucester, Mass., vessel fisheries of, statistics of 575
Golden trout, distribution of 523
Gothenburg system of regulating liquor traffic, report on 118
Grand Haven, Mich., local steamboat-inspection district of, casualties, etc., in 430
Gravity, determinations of, computation of. 342
Grayling, artificial feeding of fry of, experiments in 492
distribution of 523
Great Lakes, inspection of vessels on 365, 366
light-house establishment on 236, 249, 261
Great Lakes trout, characters and habits of. 561
Great South Bay, Long Island, contamination of oysters at 566
Green turtle, culture of, experiments in 545
Guam, commerce of United States with 29
longitude of, determination of ....., 337
need of light-house service in 20
Guantanamo Bay, Cuba, aids to navigation in 186
Gulf of Mexico, light-house establishment on 218, 225
vessels inspected on 365, 366
Gulf States, fisheries of, statistics of 586

Halibut fisheries, Alaska 658
Pacific coast 591
Hawaii, buoyage for, estimate for 132
commerce of United States with 29
conditions in, reports on 111, 119
fisheries of, statistics of 588
light-house service of 20, 285
needs of 133, 136
Head tax, collection of, Canada 825
Heat, measures of, work in fixing and testing 903
Herring fisheries of Alaska 652
Herring. *See* Lake herring.
Honolulu, longitude of, determination of .. 337
Hours of labor in principal commercial countries, report on 117
in the United States, report on. 18, 112
on Government work, bill regulating, report on 18, 112
Housing of working people, report on 118
Hydrographic work of Coast and Geodetic Survey 27, 339

Illinois, light-house establishment in. 236, 297, 298
Immigrants admitted to hospital, New York City, 1904, by countries and sex, etc 840
by race and sex, etc 838
admitted to the United States, by countries, 1820–1904, chart showing 893
by destinations and occupations, 1904 755
by races and destinations, 1904 746
by races and occupations, 1904 749
by races, occupations, and States, 1892–1904, chart showing 891

Page.

Immigrants admitted to the United States, by States, 1892–1904, chart showing 760, 890
arrived at Canadian ports, destined for United States, by steamship lines 816
arrived at ports of United States and Canada, by countries and races, 1904 742
by countries, sex, etc., 1904 745
by races, 1904 736
arrived in the United States, 1820 to 1904 765
by countries, 1903 and 1904 735
calendar year 1903 765
1857 to 1904 761
by countries, sex, etc., six months ended June 30, 1904 767
six months ended Dec. 31, 1903. 766
by months, 1903 and 1904 741
by ports, 1903 and 1904 733
certified for trachoma, 1904, by countries and races 839
colonies of, objections to 774
debarred from the United States, 1892 to 1904, chart showing 740, 889
at Canadian ports and border stations, 1904 ..... 810, 816, 817
at ports of United States and Canada, by races 737
causes of 738
coming from foreign contiguous territories, 1904 740
having communicable diseases 772
deportation of, Ellis Island station 832
deported, 1892 to 1904, chart showing .. 740, 889
Canadian ports, 1904 817
on medical certificate, New York City, 1904, by races 839
within one year after landing, by races 841
diseased, disposition of, 1904 842
fines imposed for bringing of, to the United States 771
rejected, by races 772
treated at New York 845
work in exclusion of 43, 771
detention of, cost of, to steamship lines. 832
distribution of, desirability of 774, 856, 865
escape of, from vessels, New York 833
illiteracy of, by countries 892
by races 893
in Canada, one year and less, examined by boards of special inquiry 817
steamship companies landing 815
in public institutions in the United States 775
See Penal, reformatory, and charitable institutions.
inspection of, at foreign ports, by American officials, desirability of 856
rules for, Ellis Island station 832
medical inspection of, at foreign ports, desirability of 857, 865
Canada 837
Ellis Island station 839
need of efficiency in 856

Page.

Immigrants, moral and mental tests for, recommendation for 865
naturalization of, evils in connection with 776
frauds in, New York 835
passports for, desirability of 859
protection of, on passage, desirability of 865
races of, chart showing 744, 890
steamship companies carrying, necessity for control over 863
through Canada 808
under contract to perform labor, work in exclusion of 767
See also Alien seamen; Immigration.
Immigrant stations, condition of and improvements at 43, 829
new, Canadian border 826
Immigration into the United States, assisted. 854
assisted, New York 835
character of, 1904 42
charts containing information regarding 889
effect of European emigration laws on. 862
fluctuations in, causes of 854
frauds in, through false naturalization papers 859
inducements to, by foreign governments and steamship companies 773
by steamship agencies 862
investigations regarding, in foreign countries 853
legislation affecting, needed 865
regulation of, by steamship companies. 861
statistics of, compilation of, by Census Bureau 308
tables showing 733
through Canada 808
undesirable, increase of 854
New York 835
wave of, chart showing 893
Immigration and emigration, international conference regarding, desirability of. 858
laws and regulations relating to, compilation of 858
Immigration, Bureau of, cooperation between Census Bureau and 308
force of, efficiency of 895
financial statement of 893
report on 731
work of 42, 731
Immigration cases, appealed 856
habeas corpus proceedings in 851
Immigration laws, violation of, arrests for, Canadian border 820
violations of, fines for, New York 834
Immigration officers in China, need of ... 873, 885
Immigration Service, cost of 44
laws recommended for 44
Incorporation. *See* Corporations.
Indiana, light-house establishment in ... 236, 297
northern, small lakes of, investigation of fishes of 564
Inductance, standards of measurement of, work in connection with 906
Industrial education, report on 115, 117
Industrial depressions, report on 114

Page.

Insane asylums of the United States, aliens in 42
aliens in, by race, sex, cause, etc 787
proportion of, to total alien population 790
aliens, citizens, foreign-born, and natives within and without 791
aliens, natives, and naturalized citizens in, by sections of country 790
See Penal, reformatory, and charitable institutions.
Inspection certificates issued by Steamboat-Inspection Service 82, 364
Insurance, compulsory, in Germany, report on 118
Insurance business, character of 16
Insurance companies, investigation of 71
powers of Congress and Bureau of Corporations with regard to 58
Insurance laws, investigation of 16
International Geodetic Congress, attendance of Superintendent of Coast and Geodetic Survey at 28, 338
Interstate commerce, constitutional powers and restrictions affecting, investigation of 69
control of, objections to delegation of, to States 84
definition of, discussion of 97
See Corporations.
Iowa, light-house establishment in 298
Iron and steel, cost of producing, report on. 115
Italians in Chicago, report on 119

Jacksonville, Fla., local steamboat-inspection district of, casualties, etc., in 404
Japan, salting of salmon for shipment to.. 654
Japanese, employment of, in Alaska canneries 654
Juneau, Alaska, local steamboat-inspection district of, casualties, etc., in 377

Kansas, light-house establishment in 298
Kentucky, light-house establishment in. 297, 300

Labor, hand and machine, report on 116
See Child labor; Coal-mine labor; Convict labor; Hours of labor; Railroad labor; Wages.
Labor, Bureau of, act creating 107
bulletin of 19
contents of 119
cooperation between Census Bureau and 308
duties of 17
establishment of 107
publications of 18, 19, 109, 114
report on 107
work of 17, 109
Labor conditions in New Zealand, paper on. 111
Labor disturbances in Colorado, report on, work on 112
See also Strikes.
Labor laws in the United States, compilation of 19, 110, 118, 119
Labor reports, State, index and analysis of. 118

Page.

Labor unions and British industry, paper on 111
Lake Erie, light-house establishment on... 249
Lake herring, distribution of..... 524
Lake Huron, light-house establishment on. 261
Lake Michigan, light-house establishment on 236
Lake Ontario, light-house establishment on. 249
Lake St. Clair, light-house establishment on 261
Lake Superior, light-house establishment on 261
Lake trout, propagation and distribution of..... 488, 522
Land values and ownership in Philadelphia, paper on..... 111
Leadville, Colo., fish station at, improvements in..... 478
Length. *See* Measures.
Leveling by Coast and Geodetic Survey.... 339
computation of..... 342
Leveling in the United States, 1900-1903, report on 343
License, Federal. *See* Corporations, Federal franchise for.
License fees imposed on sail vessels in coasting trade 692
Licenses, officers'. *See* Officers licensed.
Light, measurements by means of, work in connection with..... 905
standards of measurement of, work in connection with 907
Light-House Board, clerical force of, recommendation for increase of 140
office room for, recommendation for increase of..... 140
personnel of 125
changes in..... 127
report of..... 123
work of..... 20, 123
scope of 127
Light-house depots, maintenance of and changes in, first district 152
maintenance of and changes in, second district 161
third district 176
fourth district 195
fifth district 206
sixth district 216
seventh district..... 223
eighth district 233
ninth district..... 246
tenth district 258
twelfth district 284
thirteenth district..... 296
new, need for 134
Porto Rico, need for..... 185
Light-house districts, map of..... 125
new, need for 21, 136
Light-House Establishment, appropriations for..... 20, 128
appropriations for, estimates for 141
goods imported for, request for free entry of..... 137
report on, first district..... 145
second district 153
third district 163
fourth district..... 187

Page.

Light-House Establishment, report on, fifth district 198
sixth district 210
seventh district 218
eighth district..... 225
ninth district..... 236
tenth district..... 249
eleventh district 261
twelfth district..... 275
thirteenth district..... 289
fourteenth district 297
fifteenth district..... 298
sixteenth district..... 300
Hawaii 285
Porto Rico..... 181
Light-house keepers, number of..... 131
salaries of, estimate for..... 131
Light-houses, repairs and betterments of, estimate for 130
supplies of, estimate for 130
See also Light stations.
Light-house tenders, additional, need of. 135, 182
new, being built..... 135
Porto Rico, need for..... 182
work of, etc., first district 152
second district..... 162
third district 177
fourth district..... 196
fifth district 207
sixth district 216
seventh district 223
eighth district..... 234
ninth district..... 247
tenth district..... 258
eleventh district..... 273
twelfth district..... 284
thirteenth district..... 296
fourteenth district..... 297
fifteenth district..... 298
sixteenth district..... 300
Light-house works authorized..... 129
Lighting plants, municipal and private, report on 117
Light stations, maintenance of and changes in, first district 145
maintenance of and changes in, second district 153
third district 163
fourth district..... 187
fifth district 198
sixth district 210
seventh district 218
eighth district..... 225
ninth district..... 236
tenth district..... 249
eleventh district 261
twelfth district 275
thirteenth district..... 289
Hawaii 286
new, need of 134
private, proposed prohibition of 138
Light-vessels, expenses of, statement of and estimate for 132
maintenance of and changes in, first district 149
second district..... 156

Page.

Light-vessels, maintenance of and changes in, third district 171
fourth district 192
fifth district 205
sixth district 214
eighth district 232
ninth district 243
tenth district 256
eleventh district 270
thirteenth district 298
new, needed and in construction 134
Liquor problem, economic aspects of, report on 116
Liquor traffic, Gothenburg system of regulating, report on 118
Living, cost of. *See* Cost of living.
Load line, for American vessels, discussion of 670
Lobsters, impounding of, experiments in.. 492
preservation of, study of problem of... 571
propagation and distribution of..... 487, 539
Loch Leven trout, distribution of 503
Lockouts in the United States, preparation of report on 18, 112, 114, 116
Long Island Sound, light-house establishment on 163
Longitude determinations by Coast and Geodetic Survey 27, 337
Louisiana, light-house establishment in . 225, 300
oyster beds of, surveys of, by Coast and Geodetic Survey 341
Louisiana Purchase Exposition, Chinese visitors to, treatment of 44, 881
exhibit at, by Bureau of Fisheries 483
by Bureau of Labor, and papers thereon 19, 113
by Bureau of Standards..... 45, 47, 903
by Coast and Geodetic Survey 342
Louisville, Ky., local steamboat-inspection district of, report on 415
Lynnhaven, Va., experiments in oyster fattening at 540

Machine labor, report on 116
Mackerel, distribution of 539
Magnetic surveys by Coast and Geodetic Survey 27, 338
Magnetism, terrestrial, office work in, Coast and Geodetic Survey 343, 347
standards of measurement of, work in connection with 906
Mail contracts, ocean, foreign 685
Maine, light-house establishment in 145
fisheries investigations in 558
Malone, N. Y., Chinese detention station at, report on 868
Mammoth Springs, Ark., fish station at... 476
Manila, P. I., longitude of, determination of 337
Manning scale for American vessels, desirability of fixing 679
Manufacturers' materials, imports of, into the United States 29
Manufactures, Bureau of 15
Manufactures, census of, for 1905, work on. 23, 318

Page.

Manufactures, exports of, from the United States 28
in foreign commerce of the United States, report on 31
Marquette, Mich., local steamboat-inspection district of, casualties, etc., in 430
Marriage, statistics regarding, report on... 118
Maryland, light-house establishment in.. 187, 198
Mason and Dixon line, survey of, work on, by officer of Coast and Geodetic Survey.. 341
Mass. *See* Weights.
Massachusetts, cooperation with, in census of manufactures 320
light-house establishment in 153
Measures, collection of information regarding 45
standardization of 46, 901
Memphis, Tenn., local steamboat-inspection district of, casualties, etc., in 418
Menhaden, disease of, in Narragansett Bay. 567
Merchant Marine Commission, establishment of 685
Meter, United States prototype, recomparison of 903
Mexico, immigrants through, debarred, 1904 740
Michigan, cooperation with, in census of manufactures 319
light-house establishment in 236, 249, 261
population census of, comparison of, with Census Bureau's estimate 325
relations of Bureau of Fisheries with authorities of 471
Midway Island, commerce of United States with 29
longitude of, determination of 337
need of light-house service in 20
Milwaukee, Wis., local steamboat-inspection district of, casualties, etc., in 432
Mine labor, coal, in European countries, report on 112
Mine workers, coal, union movement among, paper on 111
Minnesota, light-house establishment in. 261, 298
Mississippi, light-house establishment in. 225, 300
Mississippi River, collection of fish left by overflow of 498
light-house establishment on 298
Mississippi River Commission, connection of Coast and Geodetic Survey with 341
Missouri, light-house establishment in... 298, 300
Missouri River, light-house establishment on 298
Mobile, Ala., steamboat-inspection district of, casualties, etc., in 445
Montreal, Quebec, Commissioner of Immigration at, report of 809
Mortality, annual reports on, compilation of 23, 316
Motor vessels, inspection of 366
Municipal accounting, conference to secure uniformity in 314
Municipal finance, statistics of, work on. 314, 317
Municipal ownership of water, gas, and electric-light plants, report on 117
Murder, aliens in penal institutions for, by races and sections of country 792

Page.

Narragansett Bay, disease of menhaden in. 567
Nashua, N. H., fish station at, improvements in 478
gas-bubble disease at 564
Nashville, Tenn., steamboat-inspection district of, casualties, etc., in 417
National Academy of Sciences, plan for surveys in Philippines prepared by 341
Navassa, need of light-house service in 20
Navigation bounties, foreign 687
Navigation, Bureau of, division of duties between Treasury Department and 657
report of 655
list of appendixes in 728
list of statistical tables in 729
transfer of, to Department of Commerce and Labor 657
work of 40
Navigation, fees, recommendations for changes in 726
Navigation fines, penalties, and forfeitures, remission of 695
remission of, applications for—defective manifest 722
failure to furnish master's report on arrival 723
failure to have name marked on vessel 724
failure to produce bill of health 719
failure to produce enrollment and license for inspection 721
failure to report change of master 724
failure to surrender license 716
miscellaneous cases 724
violations of New York anchorage regulations 720
violations of passenger act of 1882 720
violations of rules of the road 717
Nebraska, light-house establishment in 298
Negroes of Xenia, Ohio, paper on 111
Neosho, Mo., fish station at, improvements in 477
New England States, fisheries of, statistics of 584
New Hampshire, light-house establishment in 145
New Haven, Conn., steamboat-inspection district of, casualties, etc., in 398
New Jersey, light-house establishment in 187
New London, Conn., steamboat-inspection district of, casualties, etc., in 396
New Orleans, La., steamboat-inspection district of, casualties, etc., in 442
New York City, steamboat-inspection district of, casualties, violations of law, and investigations in 382
immigrant station at, report of work at. 830
See Ellis Island.
reinspection of steamers at 84
New York State, interior lakes and streams of, fisheries of, statistics of 589
light-house establishment in 249
New Zealand, labor conditions in, paper on. 111
presentation of fish eggs to 475
Norfolk, Va., steamboat-inspection district of, casualties, etc., in 400

Page.

North America, commerce of United States with 29
North Carolina, light-house establishment in 198, 210
oyster culture and planting in, experiments in 542, 572
Northville, Mich., fish station at, improvements in 478

Oceania, commerce of United States with 29
Ocean-mail contracts, foreign 685
Officers licensed by Steamboat-Inspection Service 32, 362, 446, 459
first district 369
second district 379
third district 399
fourth district 406
fifth district 410
sixth district 414
seventh district 419
eighth district 426
ninth district 435
tenth district 440
Ohio, light-house establishment in 249, 297
Ohio River, collection of fish left by overflow of 498
light-house establishment on 237
Oil houses, construction of, second light-house district 161
third district 170
fourth district 192
tenth district 255
Optical measuring instruments, work in connection with 46, 905
Oregon, light-house establishment in 299
salmon-canning industry of, statistics of 594
triangulation in 337
Organization, Department of Commerce and Labor 7
plan of 11
See also the several Bureaus.
Oswego, N. Y., steamboat-inspection district of, casualties, etc., in 439
Output, regulation of, in Great Britain and the United States, report on 19, 110, 119
Oyster beds, Louisiana, survey of, work on, by officer of Coast and Geodetic Survey 341
Oysters, as a source of infection, study of 570
contamination of, Great South Bay, L. I. 565
fattening of, experiments in 37, 540
planting and culture of, North Carolina, experiments in 542, 572

Pacific coast, cod fishery of, statistics of 590
halibut fisheries of 597
inspection of vessels on 365, 384
salmon-canning industry of, statistics of 595
whale fisheries of, statistics of 583
Pacific Ocean, deep-sea investigation in, by Coast and Geodetic Survey 341
Padrone system, introduction of aliens into the United States under 4
Pamlico Sound, biological survey of, planned by Beaufort laboratory 57
light-house establishment on 13

Page.

Pamlico Sound, oyster culture and planting in, experiments in 572
Panama Canal Zone, vessels in trade with. 684
Penal institutions in the United States, aliens in, by race, sex, cause, etc..... 788
aliens in, for murder and attempt to murder, by races and sections of country..... 792
See Penal, reformatory, and charitable institutions.
Penal, reformatory, and charitable institutions of the United States, alien criminals and recent arrivals in 786, 890
aliens in..... 42
by race 791
by race, sex, cause, etc..... 779
Hawaii 804
North Atlantic States..... 794
North Central States 798
percentages 784
Porto Rico..... 805
South Atlantic States..... 796
South Central States 800
Western States..... 802
by racial grand divisions and sections of country 793
by sections of country, etc..... 781
by States, chart showing 890
Penalties, navigation. *See* Navigation fines, penalties, and forfeitures.
Pennsylvania, light-house establishment in..... 249, 297
Perch. *See* Pike perch; White perch; Yellow perch.
Personnel, Department of Commerce and Labor..... 12
See also the several Bureaus.
Philadelphia, Pa., land values and ownership in, paper on 111
steamboat-inspection district of, casualties, etc., in..... 395
Philippine Islands, census of, compilation of 24, 307
census of, force employed on..... 330
publications of 333
charts of, publication of..... 340
coast survey of, division of expenses of..... 340, 348
work on 27, 340, 347
commerce of United States with 29
labor conditions in, paper on 114
vessels in trade with 683
Phosphate industry in the United States, report on 118
Photometry, standards of, work in connection with 907
Pike perch, date of spawning of, note on .. 492
distribution of..... 525
hatching of, notes on..... 492
Pilotage charges on sail vessels in coasting trade..... 692
Pittsburg, Pa., steamboat-inspection district of, casualties, etc., in 423
Plates, marine, inspected by Steamboat-Inspection Service..... 360
See also Boiler materials.

Page.

Polariscope analysis, standards of work in connection with..... 905
Pollock, propagation and distribution of. 487, 539
Population, census of, cooperation with States in taking of..... 321
census schedules of, preservation of.... 310
estimates of, method adopted in making, reasons for..... 324
publication of, by Bureau of Census. 323
Port Huron, Mich., steamboat-inspection district of, casualties, etc., in 433
Portland, Me., steamboat-inspection district of, casualties, etc., in..... 397
Portland, Oreg., steamboat-inspection district of, casualties, etc., in 374
Porto Rico, commerce of United States with. 29
light-house service of..... 2), 168, 170, 181
estimates for 135
work of Coast and Geodetic Survey in . 339
Post lights, estimate for..... 133
thirteenth light-house district 293
fourteenth light-house district 297
fifteenth light-house district 298
sixteenth light-house district 300
Presumpscot River basin, investigation of fishes in 560
Pribilof Islands, care of natives on 39
fur sealing and fox raising on..... 39
Prices, retail, of food, report on 109, 117
wholesale, course of, paper on 111
Printing, Department of Commerce and Labor 14
See also the several Bureaus.
Providence, R. I., steamboat-inspection district of, casualties, etc., in..... 397
Publications. *See* Printing.
Public Health and Marine-Hospital Service, proposed inspection of immigrants by ... 44
Put-in-Bay, Ohio, fish station at, improvements in..... 417
Pyrometers, standardization of..... 46, 903

Railroad labor, report on 115
Railroad property, value of, preparation of report on 22, 315
Railways, electric, preparation of report on. 23
Rainbow Lake, Piscataquis Co., Me., investigation of fishes of..... 560
Rainbow trout, characters and habits of... 550
introduction of, into new waters..... 489
propagation and distribution of..... 488, 503
Red trout, Canadian, distribution of..... 523
Reformatory institutions *See* Penal, reformatory, and charitable institutions... 779
Registry, American, of repaired wrecks.... 671
Rhode Island, aids to navigation in, maintenance of and changes in..... 163
Rivers, lighting of, estimate for..... 133
Rock bass, distribution of..... 536
Royal River basin, investigation of fishes in. 560

Sail area, fixing of manning scale by 679
St. Lawrence River, light-house establishment on 249
St. Louis, Mo., steamboat-inspection district of, casualties, etc., in..... 407
See Louisiana Purchase Exposition.

Page.

Salmon, Atlantic, propagation and distribution of 486, 500
blueback, distribution of 502
canning of, Alaska 553
methods of 600
Pacific Coast States, statistics regarding 593
dog, characters and habits of 549
humpback, characters and habits of ... 548
distribution of 502
landlocked, distribution of 501
experiments in culture of 490
introduction of, into new waters ... 489
Pacific, experiments in culture of 491
propagation and distribution of .. 485, 500
species, characters, and habits of .. 546
propagation of, Alaska 636
protection of, Alaska, recommendation for 554, 654
quinnat, characters and habits of 547
distribution of 500
red, characters and habits of 547
run of, in Columbia River, 1904 594
salting of, Alaska 553, 605
for Japanese trade 654
silver, characters and habits of 548
distribution of 502
small, prevalence of, in Alaska, 1904 ... 653
Salmon fisheries, Alaska, employees in 650
Alaska, investigation of 37, 480, 545
laws regarding, enforcement of 633
methods of 551
output of 38, 598, 642, 647
recommendations regarding 554, 654
reports on 545, 598, 613
statistics of 645
summary of 642
value of 553
vessels, boats, and fishing gear used in 651
Pacific Coast States 593
Salmon packing industry, Alaska 553, 598, 615
Alaska, employees in 650, 654
methods used in 600
output of 38, 598, 642, 647
plants engaged in 645
inspection of 619
new and abandoned 633
statistics of 645
summary of 642
Pacific coast 593
Salvation Army, farm colonies of, paper on. 111
San Francisco, Cal., Chinese cases dealt with at 887
immigrant station at, need of improvements in 829
steamboat-inspection district of, casualties, etc., in 370
whaling fleet of, statistics of 593
Savannah, Ga., steamboat-inspection district of, casualties, etc., in 404
Seal fisheries, Alaska 39
Seamen, alien, inspection of, under immigration laws 43, 807
alien, inspection of, Ellis Island station. 833
allotment notes given by 677

Page.

Seamen, crimping of, prevention of 678
desertion of, from American vessels 676
on American vessels, nationality of 675
shipping of, supervision of 42
Seattle, Wash., steamboat-inspection district of, casualties, investigations, and violations of steamboat laws in 374
Sea water, artificial, experiments with, at Woods Hole, Mass 570
Secretary's office, estimates for 11
work of 7
Securities, negotiable, value of, preparation of report on 23, 315
Sequallitchew Lake, Wash., investigation of fishes of 562
Serum of marine animals, bactericidal properties of, investigation of 571
Shad, occurrence of, in Alaska 653
propagation and distribution of 485, 499
Shellfish as a source of infection, investigation of 570
See Clams; Oysters.
Shipbuilding in American yards 40, 661
Shipping, American, statistics of, 1904 659
American, summary of, 1904 658
increase in, 1904 ..... 40, 661
foreign, discrimination against, discussion of 688
square-rigged, decline in 663
State taxation of 727
Shipping commissioners, expenses of 676
reports of 674
work of 41, 675
Slocum commission, work of 33, 35
Slocum, General, disaster to 33, 360
Slums of American cities, report on 118
South America, commerce of United States with 29
shipment of undesirable immigrants to. 862
South Atlantic States, fisheries of, statistics of 585
South Carolina, light-house establishment of, report on 210
Spearfish, S. Dak., fish station at, improvements in 477
Speed indicators, testing of 905
Sponge culture, experiments in 37, 542
Standards, Bureau of, financial statement of 909
library of 908
office work of 908
publications of 46, 908
quarters of 899
report of 897
staff of 908
tests by 909
work of 45, 897
chemistry 907
electrical measuring instruments .. 906
electrical resistance and electromotive force 906
engineering instruments and materials 905
heat and thermometry 903
inductance and capacity 906
light and optical instruments 905

Page.

Standards, Bureau of, work of, magnetism and absolute measurement of current. 906
work of, photometry 907
scope of 900
weights and measures 901
State sealers, proposed meeting of 902
Statistics, Bureau of, work of 28, 353
Steamboat-Inspection Service, duties of 31
finances of 31, 358
force of, increase recommended in 366
investigation of 34
personnel of 357
report on 355
first district 368
second district 378
third district 398
fourth district 405
fifth district 409
sixth district 413
seventh district 419
eighth district 425
ninth district 434
tenth district 440
work of 31
tabular statement of 446
work of Supervising Inspector-General's Office 362
Steamboat laws, penalties under, remission of 699
penalties under, for navigating on expired certificate 714
for navigating with defective equipment 710
for navigating with unqualified officers 712
for unlawful transportation of passengers 713
violations of 399, 400
first district 369, 370
second district 380, 382
third district 399, 400
fourth district 406, 408
fifth district 410, 411
sixth district 414, 415
seventh district 420, 421
eighth district 426, 427
ninth district 435, 436
tenth district 441, 442
Steamboat rules and regulations, revision of 84
Steamers. *See* Vessels.
Steam-pressure gauges, testing of 905
Steamship rate war, effect of, on immigration to the United States 854
Steelhead trout, character and habits of ... 550
distribution of 502
introduction of, into new waters 489
Steel plates. *See* Boiler materials.
Steilacoom Lake, Washington, investigation of fishes of 562
Strawberry bass, distribution of 536, 500
Strikes in Colorado, 1880 to 1904, preparation of report on 113
in the United States, report on. 18, 112, 114, 116
Striped bass, propagation and distribution of 486

Page.

Striped bass, distribution of 500
yields of eggs from 492
Sugar, polariscope analyses of, work in connection with 905
Supplies, Department of Commerce and Labor, purchase of 13

Tabulating appliances, electrical, for census work 26
Tariffs, discrimination in, according to carrying vessel, discussion of 688
foreign, collation and translation of, by Bureau of Statistics 31
Taxation in the United States, corporate, investigation of 16, 65, 67
corporate, laws affecting 82
preparation of report on 22, 313
Technical education. *See* Education, industrial.
Telegraph service, Department of Commerce and Labor 15
Telegraphy, wireless, in the United States, control of 47
Telephone service, Department of Commerce and Labor 15
sixth light-house district 217
Tennessee, light-house establishment in. 297, 300
Terrapin, diamond-back, culture of, experiments in 87, 544
observations on, at Beaufort, N. C 573
Texas, light-house establishment in 225
triangulation in 337
Textiles, cost of producing, report on 115
Thermometers, standardization of 46, 908
Tide observations by Coast and Geodetic Survey 27, 339
office work in connection with 343
Toledo, Ohio, steamboat-inspection district of, casualties, etc., in 439
Tonnage. *See* Shipping; Vessels.
Tonnage measurement of American vessels in France 726
Tonnage taxes, collection of 41, 681
British 683
discriminating, discussion of 687
reciprocal exemption from 681
Topographic work of Coast and Geodetic Survey 27, 339
Trachoma, danger from 856, 858
immigrants certified for, 1904, by countries and races 809
rejections for, at Sault Ste. Marie, Ont.. 827
Trade education. *See* Education, industrial.
Trade unions, among coal-mine workers, paper on 111
regulation of output by, in England and the United States, report on 110
Transit micrometer, modification of, in Coast and Geodetic Survey 346
tests of, computation of 342
Triangulation by Coast and Geodetic Survey 27, 339
along ninety-eighth meridian 337
report on 343
computation of 342
primary 337